The Builder.

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Sir Joshua Reynolds.

IT is a remarkable fact that, notwithstanding the amount that has been written on the life and works of Sir Joshua Reynolds, no serious attempt has yet been made to take the measure of him as an artist. This statement at first sight may seem untrue, but it is one capable of proof, and easy of explanation. The usual fate of the portrait-painter is, of course, that his works should be subordinated in interest to the people they represent; and with Reynolds this result is the more probable, because his portraits are of those men and women who live for us in the letters of a Horace Walpole and the pages of a Boswell. It is but natural, therefore, that the series of pictures which issued in such a number from his studio should be studied rather for the light they throw upon the copious and fascinating memoirs and biographies of the last century, than for the purely artistic interest attaching to them as the works of one of the greatest of the English school of painters. The biographers of Reynolds have always written under the overpowering influence of Boswell; they have striven to bring us in contact, not so much with the artist as with the man and his companions; they take us oftener to the clubs and the dining-rooms which he was wont to frequent, than to the studio in which he built up his fame; and even when, on rare occasions, we find ourselves there, it is on the painter's subjects that our attention is almost wholly concentrated, on their *amours*, their politics, their adventures, their feats of arms; and meanwhile the great craftsman behind his canvas plies his task, and we are seldom allowed to watch how he accomplishes it. The people he painted are too near us in point of time; some of us can remember their children; their grandchildren are still with us. Every one can tell stories about this and the other more or less well-known individual, and it is therefore not surprising that, in the face of so much human interest, merely artistic interest should be scarcely noticed. Our complaint against the German writers upon the arts of the Renaissance is exactly the contrary. In presence of the pictures of a Masaccio, a Botticelli, a Raffaelle, they seem to forget that there is such a thing as humanity. They overwhelm us with technical minutiæ, with details of the drawing of fingers and toes, and to their minds the interest of a subject seems to be directly proportional to the intricacy of the investigations connected with it. Nevertheless it would be well if we could import into our studies of the arts of our own painters a little of this German element. Without desiring to annihilate or indeed greatly alter Leslie and Taylor's really interesting "Life of Reynolds," we cannot but wish that much of the political history which is dovetailed into it, and many of the anecdotes (amusing enough in themselves) which are interspersed throughout it, had been omitted, and that some slight discussion of the periods of development of the artist, as an artist, had been inserted instead. By all means show us the man, but let us behold the painter too.

Now there is but one way in which any just and complete view of a painter can be obtained, and that is by considering the formation and growth of his style. Whence did he derive the foundations of his skill? What influences were from time to time brought to bear upon him, and with what effect? What elements in his work were due to his own individual character? These, and many more of a like kind, are the questions which the biographer of an artist must set himself to answer. The writer on Holbein may leave the life of Anne Boleyn to a professed historian and content himself with her painted image and its excellences or faults. The writer on Reynolds should be similarly reticent. There is no lack of literature about the social history of the eighteenth century; but, as things are, the student who would concern himself with the artistic qualities of Hogarth, Reynolds, Gainsborough, and Romney must rely upon his own investigations. With regard to Reynolds, then, we desire to know, first of all, from what sources he derived the elements of his style, and what influences from without acted upon its development. We are told in reply that his master was Hudson, that he was brought at an early period in contact with the works of Gandy of Exeter (whose father was a pupil of Vandyck), and that he spent two years in Italy in earnest study of the works of the great masters. Note-books, to which fortunately his biographers give us access, and sketch-books of his, exist, but no sufficient critical study of them has been made to enable us to declare what factors of his manner were derived from what sources. The works of Hudson and Gandy are not so well known that their names are sufficient to call up any definite style of work in the memory even of a tolerably educated amateur. The sketch-books, again, are not easily accessible to everybody, and, no doubt, they would require a good deal of comment before they could be made of much service. In the case of those brought back by the young painter from Italy we should want to be informed what, in each case, was the original picture from which a sketch was taken, and what use, if any, the artist afterwards made of it. That Reynolds was wont, even in his latest years, to recur to the prints and pictures he had seen, and the sketches he had made in his boyhood, we can show by several conspicuous instances. Two or three times he borrowed ideas from Cats's "Book of Emblems," the play-book of his childhood; whilst the picture of Mrs. Sheridan as St. Cecilia, to mention no others, was founded upon a drawing made by him thirty years before in Italy. Taylor and Leslie inform us of these isolated facts, but neither they nor any of Reynolds's biographers have ever attempted a thorough investigation into these and kindred matters. It is, therefore, the more to be regretted that, in the most interesting collection of the artist's works now on view at the Grosvenor Gallery, no attempt has been made to bring together, also, a few pictures by Hudson and Gandy, that we might see for ourselves what manner of teaching the lad received, and what effect was produced upon him in early years by contact with another formed painter besides his master. It is even a greater pity that more drawings have not been brought together, and arranged and briefly catalogued in chronological order, so that we might be able to watch the growth of the young artist's skill in assimilating ideas and recording suggestions derived from the inspection of works of art of all periods. Reynolds's Venice notebook, printed in the "Life," shows that his eye, in the midst of that city of colour, was mainly interested in observing methods of handling and distributing light and shade. We also gather that he was wont to make brief records of the chiaroscuro of pictures by simply shading-in the dark spaces and the half-lights. A few specimens of these and the like studies would be most instructive, and from them we should gladly pass on through a series of more finished studies from old masters to his own first ideas for pictures, rapidly noted down. Such studies and sketches, no doubt, exist amongst the few drawings in the Grosvenor Gallery, but they are unnamed, undated, and uncatalogued, and therefore useless. Of this want of arrangement (of which we previously complained in our special notice of this exhibition) a single instance may be noticed. One of the four drawings in the frame No. 217 is a rough pen-and-ink sketch of a boy in a landscape,

leaning against some kind of table, with his hand resting upon a crouching owl. In another room, and invisible from anywhere in the neighbourhood of this drawing, is a small oil-colour sketch (No. 96) for the same subject, of peculiar brilliancy and richness; whilst, again, there hangs, in a third room, and invisible from anywhere near either of the preceding, the finished oil-painting,—one of the most charming of Sir Joshua's portraits of boys,—representing the young Earl of Dalkeith (No. 132). Had the three stages of the work been arranged together it is not too much to say that they would have formed one of the most interesting groups in the collection. A somewhat similar mistake has been made in hanging the two portraits (of 1769) of the Countess Spencer and her little girl in different rooms. It is clear that Sir Joshua or his sitter was not satisfied with the first attempt (No. 199), and it was accordingly laid aside after the mother's face had been almost finished, and the child's roughly sketched in. Accordingly a new start was made with a larger canvas; the child was placed on the other side of its mother, but the positions were otherwise retained as before. If this finished picture (No. 157) had been hung beside the unfinished one of the same date, we should have had a most valuable opportunity of comparing the different stages of the artist's work, and seeing for ourselves how he was able to spread over cold purple undertones that mellow harmony of tints which is the peculiar characteristic of all his most pleasing works.

Before the exhibition was opened we were given to understand that the arrangement of the pictures was to be, as far as possible, chronological. No attempt, however, in that direction has been made, and, indeed, pictures of the same period (the young Duke of Gloucester and "La Collina," for instance), that seem almost to have been painted as pendants, are often gratuitously dispersed about in different rooms. Artistically, no doubt, the hanging is well done, but the artistic effect is purchased by the sacrifice of much of the possible utility of the exhibition. The public have still to learn, what it is hopeless to expect artists ever to understand, that the only order in which a painter's works can be studied with profit is the chronological. It is only so that they hang together as a whole, and mutually explain each other. Now and again all artists make experiments in new directions, and with Reynolds such experiments formed a part of his normal practice; but, unless the chronological arrangement is adopted, the eye cannot distinguish between what is merely exceptional and what is the result of direct development, between what is ephemeral and what is absorbed into the artist's regular practice. Just as in the study of schools of art, archaic work and that of epochs of decline derive almost all their interest from the light they throw upon the art of the central period of a school, so, in the study of each individual artist, the productions of his youth, in themselves often of little beauty, when considered in relation to the growth of the man as an artist, flash into importance, and become bright with interest. Some artists, indeed, such as John Van Eyck, show, in those of their works that have come down to us, comparatively little change. The Ince-Blundell "Madonna," now exhibited amongst the "Old Masters," tells its story of honest hard work and unflagging industry plainly enough, alone as it stands. But most painters, if their lives extend to the normal limits, pass through many well-defined stages of development, during some of which it is not too much to say they are as different from themselves at other times as from other artists. Such a man was Reynolds, perhaps of all painters the most varying. A brief inspection of any 200 of his works arranged at random is the most puzzling thing imaginable. It seems difficult to believe that we have before us the works of one man and not of several, all of different natures and gifts. But arrange his works in their historical order, and all this confusion ceases at once. The different stages of style through which he passed group themselves naturally together, and lead us from one to another. To indicate in a few words what is the nature of these changes and developments is, of course, impossible; but certain sign-posts of the way may be pointed out.

Sir Joshua's pictures naturally divide themselves, according to their form and subject, into groups, whole-length portraits, three-quarter lengths, half-lengths, busts, pictures of a mother and her child, and pictures of children. For each of these classes of work the artist developed a different style simultaneously, no two pictures, for example, presenting a greater contrast than the "Schoolboy with a Portfolio" (No. 192), and the full-length "Lady J. Lindsay playing a Harp" (No. 82), both of 1777. Not only, however, are there these simultaneous differences of style imposed upon the painter, as he conceived, by the form of his pictures, but each style has its own periods of growth, and each, to some extent, acts on the others, and is influenced by them. In the year 1780, for instance, Reynolds shows in a great many of his pictures a tendency to indulge in a strong, almost Rembrandtesque chiaroscuro. He likewise uses, with continually increasing skill and delight, a very rich brown colour; and some of his pictures of this period, notably the "Tragic Muse," of 1784, are little more than monochromes in this rich golden brown. All the time, however, his standing full-length portraits of women retain very much the same qualities they possessed before. These standing full-lengths, indeed, are always markedly different from his other pictures. Not only is there a difference of tone of colour and scale of illumination in them, but the difference extends to the way the painter looks at his subject as a human being. The half-length ladies are always beautifully human, thoroughly characteristic in costume, expression, posture, and everything else. But in the full-lengths Reynolds seems to paint people from another sphere of existence altogether; the ladies are all nymphs, dressed in some sort of ideal costume, and engaged in ideal employments, such as "Draping the Altar of Hymen with Flowers," and the like. In his fourth discourse as President of the Royal Academy, Reynolds said: "The works, whether of poets, painters moralists, or historians, which are built upon *general nature*, live for ever; while those which depend for their existence on particular customs and habits, a partial view of nature, or the fluctuations of fashion, can only be coeval with that which first raised them from obscurity." It is in his full-lengths that Sir Joshua allowed himself to fall under the dominion of this theory. He clothed his ladies in "generalised" drapery, "drapery, and nothing more"; he gave them "generalised" expressions of countenance, and occupied them in employments which did not "depend on particular customs and habits." The consequence, of course, is that this set of pictures, instead of being the most immortal, consists of those from which interest has, in great measure, passed, because they were based, not upon nature and fact, but upon the taste of a day. Notwithstanding, however, the wide interval by which this class is separated from the other classes of Reynolds's works (and this is the point at which we have been aiming), the Rembrandtesque tendency, which manifests itself in the years 1780 to 1784, is likewise in a measure reflected in some of the full-length ladies' portraits of that time,—notably, for instance, in the picture of Mrs. Peter Beckford (No. 31), who is represented as standing in a temple in the act of offering a sacrifice, barred shadows of unusual depth falling in a striking fashion across her figure and the architecture behind. In almost all the full-lengths of other periods of the painter's career, the figure stands in full light and wears drapery of a glossy character, such as Sir Peter Lely loved to employ. The contrast is therefore the more remarkable in this case; but when the picture is considered in relation to its contemporaries its exceptional character is easily explained.

Without wishing in the least to depreciate Sir Joshua's portraits of men, some of which, such as the Johnson in the National Gallery, stand on a level with any by Titian, Dürer, or Holbein, we shall probably carry the assent of the reader with us when we say that his most attractive paintings are his half-length portraits of ladies and his pictures of children. To the former type belongs one of his earliest finished works,—the "Mrs. Field" of 1748. In that we find the young aspirant to fame laboriously striving to catch the habitual expression of a benevolent countenance, and by honest and long-continued effort succeeding in fixing on his canvas the traces of a constant smile. Seven years later his picture of Lady Caroline Keppel marks a considerable increase of power. The posture of the sitter, who leans forward upon her folded arms, is one that could be long sustained and, therefore, carefully reproduced; but once again, though with greater skill in the modelling, the face is rendered with laborious detail, wrought out from point to point: and again it is a face about which there plays the pleasant reminiscence of a smile. Four years afterwards the portrait of her sister, Elizabeth, manifests the greater swiftness of handling which the painter had acquired, and shows, moreover, that he was now endeavouring, not alone to reproduce the best expression of his subject, but to surround her with raiment and other accessories that should in themselves form a delightful harmony of colour for the pleasure of all eyes. The "Blue Lady" of 1761 marks the final triumph of the artist in this respect, and proves that in the treatment of drapery and the harmonising of tints he had made rapid progress. The fascinating picture of Mrs. Abingdon, in the character of "Miss Prue," is known to everybody. In it Sir Joshua shows himself at length possessed of that remarkable power of seizing momentary attitudes and passing gestures, and of catching the most evanescent expressions of a countenance, and not only those that were habitual to it. Moreover in this picture those mellow tones and pretty combinations of various colours and textures appear for the first time in full development. It is not, however, till eleven years later, in the portrait of Mrs. Morris, of 1775, that we arrive at the final type of half-figure portrait of a lady. Here, at last, to richness of colouring, splendour of costume, variety of texture, and perfection in the rendering of a likeness, there is added a certain excellence of chiaroscuro, a certain glimmer of soft light about face and figure that ennobles the whole work and raises it to a higher level than all that had gone before. The Countess Spencer (of 1782) with her large hat, and the charming Miss Fanny Kemble of the following year, are but stages in the further development of this type along the same lines; and when at last we reach the Lady Thomond of 1784, the Countess Spencer of the same year, with her sweet little face looking out from the midst of its frills and its furs, the Lady de Clifford of 1786, and the Lady Elizabeth Foster of 1787, we find embodied in all of them the accumulated results of years of careful study of the human face, and shed over all of them an atmosphere of feminine tenderness which is not their own, but proceeds from the painter's educated delight in whatever of gentle and womanly he had in all his days beheld.

It would likewise be easy to trace Sir Joshua's development in the representation of children, from the altogether Mediæval babe in the picture of Lady Cathcart of 1755, and the doll-like creature which hangs from the skirts of Lady Pollington in 1762, to the beautiful little woman with her skirts tucked up, who, in 1767, carries her rough-haired dog so carefully across the brook; and thenceforward through all manner of children, grave and gay, fascinating us now with simple childish ways, and again with a naïve mimicry of the courtly manners of their elders. Sir Joshua's paintings of children have, however, formed the subject of a special study, now accessible to all, and may, therefore, be passed over here. With them, as with all classes of the artist's works, the same general lines of development may be observed, crossed now and again by this and the other side influence, according to the particular master or school whose works at the time formed the principal subject of Reynolds's study. At two different and widely-separated epochs we may see him fall under the shadow of Rembrandt. More than once he comes

within the sphere of Rubens, and again and again he measures his strength with Vandyck. The Italians whom he studied in Italy,—and amongst them especially Correggio and Tintoret,—left their traces in the growth of his style, and amongst his latest works are numbered those ideal pictures in which he strove to emulate the colouring of Titian. It is high time that amongst the multitude of people who in these days pride themselves upon the intelligent interest they take in art, some one should arise to devote to the greatest of English masters of the last century a fraction of the attention which is still almost wholly concentrated upon the sculptures of Greece and the paintings of Italy.

THE ROYAL COMMISSION ON THE HOUSING OF THE POOR.

AFTER the amount of discussion and contradiction which has taken place in regard to the question of "the dwellings of the poor," the appointment of a Royal Commission to take evidence and report upon the whole subject is what might have been for some time past expected. Whether the result to be obtained from the labours of a Commission can be commensurate with or counterbalance some of the disadvantages of such a practical suspending of action for probably two or three years, is a question that will occur to many who are among the most desirous to find a way to deal with the evils of insanitary and over-crowded dwellings. That the members of the Commission will be honestly desirous to bring the matter to some practical issue, as early at least as is consistent with the time-honoured methods and habits of Royal Commissions, we have no doubt; but the principle of selection seems an odd one, or, at least, what appears to have been the principle. Sir Charles Dilke will make an admirable chairman; Sir Richard Cross has identified himself with the subject, as also has the late conductor of this journal, who has not only the experience of previous personal examination into the condition of the London poor, years before the present "bitter cry" was raised, but is also the only member of the Commission who is likely to be able to deal effectively with the practical questions of building construction and economy which, more or less, bear upon the subject. But the emphasis which has apparently been laid upon the selection of members to "represent" the Anglican, the Roman, and the Dissenting priesthood or presbytery, suggests the idea that a good deal of useless and unpractical procedure,—"foolish and unlearned questions,"—may creep upon and waste the time of the Commission, unless a strong hand or two undertake the task of repression. What have the various "denominations" to do, in that capacity, with obtaining practical evidence on practical subjects? What has such an unballasted *doctrinaire* as Mr. Jesse Collings to do on a Board where the object is to deal with facts, not to air fancies? The list of names is really a curiously heterogeneous mixture, and forms a council which, on Bacon's shrewd suggestion, should sit at a long table, and not at a round one,* provided the right men get at one end of the table.

Granting that fortunate concurrence, what is to be gained from the appointment of the Commission which we have not within our reach already? Those who best understand the subject are nearly unanimous in the opinion that little or no new legislation is needed; that what is wanted in that respect is mainly the more efficient administration of existing legislation; and how to ensure that we know well enough, and what are the causes which stand in the way of it now. As to the condition of a large portion of the poorest classes, how they live and in what kind of dwellings, we have only too abundant testimony; and as to the question whether it is best to build lofty dwellings in towns, or to endeavour to spread out dwellings into the country and take their tenants to and from their work by cheap trains, there is already sufficient evidence on the subject to have led most clear-headed people to decide against the locomotion system, as one which has been tried and on the whole has obviously not answered. As far as the problem in London is concerned, we do not believe the Commission will extract anything which is not known or of which the statistics are not perfectly available now. The extension of the inquiry to country districts may bring us some new information, and especially may throw some new light on the relation between the condition of the country labourer and the town labourer, in regard to cause and effect. But this is going beyond the ground for which the cry for a Commission was first made, and will break up and complicate the inquiry very much. Still, this is one part of the subject on which new information may be forthcoming, or in reference to which the connexion between one part of the subject and another may be focussed anew: and this latter advantage, of presenting a mass of known facts in a connected and comprehensive manner, may attach to the whole report of the Commission. But we have reason to know that those who are most actively engaged in work among the London poor, and are most earnest for whatever reform is possible, are by no means sanguine about the result. The appointment of the Commission will, they think, be a kind of excuse for doing nothing with many who wish to pose as philanthropists, but are glad to be relieved of the burden of actually fighting the dragon, and to have the excellent and ready excuse for inaction which will be furnished by the profession of waiting till the Commission has reported. But beyond this lies the more important and serious cause of distrust, in the fact that, as some know, but many obviously do not know, the real and essential causes of the state of things which we are trying to remedy lie, in fact, quite below the superficially apparent causes, and that the investigation of them is in reality outside the sphere of action specially marked out for the Commission.

How little some philanthropists in high places, who are prominent in the present movement, are able to grasp the real nature of the problem, was especially shown in Lord Salisbury's speech inaugurating the debate on the subject in the House of Lords at the latter end of last week. With, apparently, very serious purpose, Lord Salisbury is more superficial and unphilosophical in his way of looking at the subject than we should have thought possible on the part of one who claims to be a leading statesman. He is like a man who is annoyed at finding a flower-bed overgrown with weeds, and proposes to clear it by cutting off the heads of all the weeds, leaving the roots in the ground. We have no doubt Lord Salisbury would be willing enough to have the roots up too; but, not seeing the way to that all at once, he wants a Royal Commission to cut the tops off. In other words, he and those who move with him see a number of people living in miserable, unsanitary, and overcrowded dwellings, and they say: "This will never do: let us build better dwellings for these people, and let us get all the evidence that will enable us to know best how to do it." But there was positively not a sentence in Lord Salisbury's speech which indicated any query in his mind as to why we should set about building dwellings for these people; where the line should be drawn if we are once to begin to house people by State enactment; or (which is still more remarkable) how matters came into their present condition. Here are a mass of people for whom there is no room, who are unable to pay a remunerative rent for decent dwellings, who, many of them, do not care for decent dwellings. Surely the first, or at least the most important, question to be asked in such a case, is that embodied in the phrase in the Catechism, "How came you into this state of sin and misery?" And the catechism formula supplies the answer, "By ordinary generation." Given some generations of thriftless habits, little or no education, and consequently no moral and mental stability, reckless and improvident early marriages, and equally reckless crowding into the capital as an imaginary Eldorado where work and wages are supposed to be had for the asking; given a considerable proportion of the community going on increasing and multiplying under these conditions, and the result is as inevitable as in a rule of arithmetic. The generation which has been brought or has migrated into a space where there is no room for its numbers, and where most of them are "not wanted," is, of course, fain to crowd up as it can, to exist in whatever space may remain unoccupied by those who can make good, practically, their claims on society. The spectacle is a deplorable, a heart-rending one; but if on that account we are to set about providing homes for this unhappy good-for-little crowd on easier terms than their neighbours enjoy, by whatever figment of philanthropic philosophy, what is that but, as the Bishop of London had the courage to say in the debate, "making the honest and industrious pay for those who are not so"? Put in whatever light we please, that is what it comes to; either the owners of property, or the general taxpayers, must pay for it. The answer may be and has been made,—and it is in that way that Lord Salisbury endeavoured to render his position apparently logical,—that by putting people into better homes you give them the chance of becoming better; but if there be, as we have always upheld, much to be said for the influence of the habitation on the man, it must not be forgotten that there is the equally unquestionable influence of the man on the habitation to be taken into account. And, as the Earl of Wemyss said, in delivering what Earl Granville would call his "cross-bench mind," "if they began on this system, where were they to stop? If they built houses would they furnish them? Would they put fire on the grate and food in the cupboard?"

"Speaking not his own opinion, but that of those philanthropic workers whose whole heart and soul were in this matter, and who had done so much in London to mitigate the evil, he could say that they strongly deprecated the appointment of this Commission. It would cause delay, discouragement, and demoralisation. It would cause delay, because no one would invest in this kind of property until he saw what the Commission recommended. It would cause discouragement, because people could not know what might happen at the end of the two years,—they could not know that their efforts might not be in vain. It would cause demoralisation, because it would teach large classes that they had not to look to their own exertions, and that the State must come forward and raise them out of the slough of despond."

And this feeling, we have reason to know, as we have already observed, is shared by some of those who have most practical right to know and to speak upon the subject.

The real remedy, as we suggested when Lord Salisbury's article on the subject first gave rise to its general and almost enthusiastic discussion, can only be found in the gradual influence of the better education of the lower orders which is being provided for,—we might say beneficently enforced,—by the modern legislation, the happy effects of which are only now just beginning to make themselves felt. Only a day or two since we were hearing from an eminent member of Parliament, who is prominent in all movements for educational reform, the story of the gradual physical and moral purification in a Board school in one of the worst districts of London, where not only the ignorance and brutality, but the positive filth of the unhappy children who first attended it proved such a trial to the teachers that they doubted if they could continue the work; and in a few months the same children would be sent to school clean and decent, not so much from the effect of any would-be compulsory regulations, as from the silent influence of the first elements of education and the first contact with persons of orderly and civilised habits. That is, in little, a picture of what we may hope the spread of education under our present enactments is slowly but surely effecting; and it is only to such influence that we can look for the real and essential remedy for the evils we are now deploring, and for which so many people seem vainly hoping to find some immediate and concrete remedy.

* "A long table and a square table, or seats about the walls, seem things of form, but are things of substance; for at a long table a few at the upper end, in effect, sway all the business."—Essay *Of Counsel*.

All that the Royal Commission can really do is this: they can bring together in a somewhat more comprehensive and accessible form the information which already exists as to the present working (or non-working) of sanitary legislation; they can suggest where existing legislation on that part of the subject requires to be supplemented, which will not, however, we believe, amount to much; and they may be able to elicit some fresh information as to the best method of planning and constructing the cheapest order of dwellings, so as to be at once healthful, decent, and remunerative; and we hope that this latter part of the subject will receive a large share of attention, and that practical witnesses, really competent to speak upon it, will be examined. At the same time, it is of no use to expect that success can attend the improvement of cheap tenements, unless the tenants can be got to meet the improvement half-way. A large class of persons exist at present for whom no decent lodgings can be built cheap enough, on ordinary economic principles. It *may*, perhaps, be found necessary to make some special provision *ad interim* for these, on the ground of public good in the way of physical and moral sanitation; but the expedient is at best a very doubtful kindness, and, even if adopted temporarily, is one which cannot be placed under too rigorous restraint and curtailment.

FIFTY-EIGHTH EXHIBITION OF THE ROYAL SCOTTISH ACADEMY.

THE exhibition this year does not contain any great or important work which rivets attention, yet it must be admitted that the average standard of excellence, whether as regards capacity, style, or treatment, is maintained.

There is, as usual, a small contingent from English and Continental sources, and the most remarkable of these are portrait subjects. Amongst these the portrait of J. C. Hook, by Millais, which will be so well remembered at the Royal Academy, holds the pre-eminence. It seems to have been wrought out *con amore* with thorough conscientiousness in every detail; but the same cannot be said of Mr. Millais's other contribution, "The Convalescent," for in it the drapery is slurred over in a manner which suggests the contents of the paint-pot rather than the graduated contents of the palette. There is certainly, however, a call upon the sympathy of the spectator, and there is much beauty of colour in the hastily-touched-in bunch of sweet peas.

Herkomer's portrait of Archibald Forbes, war correspondent, is characteristic of the man; and his portrait of Ruskin is a remarkable example of a life-sized head in that medium; and in the likeness of Mr. Claud H. Hamilton we have an adequate example of the work of Mr. Frank Holl. Pettie's "James II. and Duke of Monmouth," "Young Laird," and "Westminster Scholar," can none of them be reckoned amongst the best works of the artist; and James Archer's "Peter the Hermit preaching the First Crusade" does not come up to the mark of many of his less ambitious efforts. "The Adders' Pool" of J. W. Oakes is replete with poetic feeling. As regards the colour and drawing of Alma Tadema's study of the nude in "The Tepidarium" there can be no doubt, but he might have found a more refined model; and as to his "Torch-dance" we confess that we see little to admire in it. Thomas Faed's "Lowland Lassie" is a pleasing example of his manner of delineating rustic beauty, albeit of rather too refined a type. The cottagers of Joseph Israels are of a different sort, and so are his scheme of colour and mode of working. There is a deep pathos in his "Anxious Family," which appeals to the spectator, and the subdued harmony and breadth of treatment form a marked contrast to the more bright tints and precisely defined drawing of Mr. Faed. The "Nuns" of W. Q. Orchardson, in their stainless white robes and sweet purity of expression, are more of heaven than of earth.

Sir Noel Paton is as dainty and fanciful as ever in his rendering of subjects from the "Midsummer Night's Dream." He shows us *Oberon* seated upon a shelving rock attended by the elfish *Puck* as they listen to,—

> "A mermaid, on a dolphin's back,
> Uttering such dulcet and harmonious breath,
> That the rude sea grew civil at her song."

There are the usual grace of form and smooth execution which characterise the work of this artist.

"The Antiquary and Lovel" is one of the happiest efforts of the President. There is an old-fashioned taste about it in perfect keeping with the subject, and the details are wrought out with skill and discrimination. D. W. Mackay's landscapes with figures are conscientiously worked out in every detail. The truly natural and pure open daylight effect in "Spring Time" is finely expressed, and each part retains its proper value, as witness the suggestion of distance in the vaguely-indicated mountains. W. MacTaggart's mode of working shows a marked contrast to this; it is clever and forcible, but intrinsically *ad captandum*. The light and colour in a "Message from the Sea" are undoubtedly fine, and similar qualities appear in his "May Morning," but the handling of the drapery, especially in the latter, is slovenly, and the bank of primroses possesses none of the freshness of nature. In a picture-gallery work of this kind may be effective, but in an ordinary room it appears coarse and glaring.

D. Murray's "Haymaking in the Scottish Fens" is a powerful rendering of the weird glare of thunder-clouds, lighted up by the setting sun over a wide expanse of landscape, but it strikes us that too much emphasis is given to the mass of cumuli, as they at once attract attention and detract from the more subtle elements composing the rest of the picture. Robert Gibb reverts to the rendering of battle-scenes, in which he has shown more individuality than in other subjects. We believe that the artist has not had the opportunity of being in the thick of battle, and has therefore to fall back upon his imagination. In the picture now before us he is less concerned in depicting a battle than in telling an incident of the fight. Two young officers of a Highland regiment who have been "Schoolmates" are in the front of the fight; one falls wounded into the arms of the other, who, sword in hand, is ready to defend him at all hazards, whilst in the rear the corps is being thinned down by the bullets of the enemy amidst the smoke and dust which are concomitants of such scenes. The firm resolve of the hero is ably expressed, but the effect of reality is lacking. This may in some degree be owing to the too elaborate working out in the details of uniform and accoutrements, which, in the case of the two principal figures, appear as if they had been donned for the first time. Robert Herdman presents us to a one-armed veteran whose battles are over, and who, under the guidance of his grand-daughter, visits a church in which is deposited "the old flag," which he regards with reverence. The contrast between the expression of the old man and the wonder of the girl as to what affects him are well brought out. There are refinement and grace in Clark Stanton's "Cinderella," and the colour is rich and harmonious. She is represented in the act of kindling the fire, and startled by the entrance of the fairy godmother.

There is depth of feeling in R. Macgregor's "Blind Pedlar," but, in his smaller productions especially, he has adopted a foreign manner which, whatever may be its merits, cannot be commended on the score of originality; it seems at present, however, to have taken with a section of the public. Similar in subject, but treated in a more national spirit, is Thomas Graham's "Eyes to the Blind," where a young girl is represented as informing a sightless old man of some stirring incident out at sea. W. B. Hole gives us another of his fishing subjects, in which he made an essay last year, and which we prefer to his rendering of Jacobite incidents,—"The Fill of the Two Boats," laden to the gunwale with herring, and nearing a cliff-bound coast, while the early dawn casts a clear light over a gently-rippling sea. George Aikman renders "A Flood of Light at Sundown," seen through a scattered clump of trees, with poetical effect. George Hay is well represented by several of those subjects where ancient furniture and costume combine picturesquely.

We have only space left to observe that there are effective and attractive landscapes by George Smart, Alexander Fraser, and others; that Calder Marshall's bronze group of "Sabrina thrown into the Severn" forms a prominent object in the centre of the galleries; and that the full-sized model for the bronze statue of Robert Tannahill, to be erected at Paisley by D. W. Stevenson, is considerably above the average of such productions.

NOTES.

SIR F. BRAMWELL hit on a very effective manner of introdueing his subject when lecturing on Thames Communications at the Royal Institution on Friday in last week, by commencing with a description of two Oriental towns, one containing a population of 890,000 people, and the other one of 655,000, divided by a narrow river, which they were always wanting to get over, but for the passage of which they took no more direct means than going round by a bridge some distance above the locality of the "towns." Then it came out that the Oriental towns were no further east than the two east Londons, on the north and south banks of the river, and that the description was of the nature of an allegory. Sir F. Bramwell is, as every one knows, in favour of direct communication below London Bridge. In pointing out that modern engineers could certainly overcome the difficulty of making a high-level bridge which would give clear passage for all the shipping that comes up to London Bridge, the lecturer, if he is correctly reported, forgot to inform his audience of the enormous drawback to the usefulness of such a bridge arising from the heavy ascents that would be necessary to reach it; while in recommending his favourite scheme of a tunnel he seems equally to have forgotten to mention the still somewhat formidable difficulty of descent, or of ascent on the other side: *revocare gradum,—hoc opus, hic labor est;* to get up the further gradient, that will be the tug. The steam-ferry, which "soon came to grief," was alluded to, but we are surely not expected to deduce from that the conclusion that all steam-ferries must share the same fate. We have little doubt that if a permanent communication be made it will take the form of a tunnel; but we again urge that well-found ferries, with large boats, should be fairly tried, before expending so much money on schemes every one of which has its practical disadvantage.

FROM a sprightly article contributed by M. Marcel Daly to the pages of *La Semaine des Constructeurs*, we learn the main results of the double architectural Congress at Nice, to which we have before referred. On the question of an obligatory diploma for all practising architects, which was opened by M. Chevallier, of Nice, the Congress appears to have come to an unexpectedly unanimous opinion on a very vexed question; namely, that such a diploma should be obligatory in regard to practical and scientific knowledge, leaving artistic capabilities on one side, to be decided by public and critical opinion; a very sensible decision. On the subject of the raising of the level of technical instruction for the *personnel du bâtiment*, the appointment was recommended of syndicates of architects, engineers, and contractors, to fully consider the subject. On the question of professional charges no conclusion was arrived at. On that of the responsibility of architects M. César Daly drew a broad distinction between architect and contractor, the one being the thought that directs, the other the hand that executes, and urged that no one ought to attribute to the former the responsibilities that belong properly to the latter; and the discussion terminated in a resolution to the effect that a permanent commission ought to be established in Paris to take charge of the interests of the profession generally, and to assist in the solution of the various difficulties

affecting the interests of the profession *en masse*.

THE International Congress, which followed upon the local one in which the preceding conclusions were arrived at, was remarkable, M. M. Daly admits, for the number of interesting and well-conducted excursions and visits in which the members took part. More serious matters were not, however, forgotten. M. Cordier, the sculptor, read a paper on *sculpture polychrome*, arguing that form had been the primary element of sculpture, and colour only a subsequent and less essential addition. M. César Daly was of opinion, on the contrary, that form, being a more abstract and intellectual element in design than colour, had detached itself as a separate object of study in the later and more intellectual development of sculpture,—a conclusion in which we are disposed to agree. At the last meeting of the Congress Dr. Brown-Séquard read a paper, which appears to have excited great interest, on the health of towns, especially on the necessity of a more abundant supply of pure air being introduced, by mechanical means, if necessary, into all dwellings, concluding with an appeal for "de l'air pur, de l'air abondant, de l'air et toujours de l'air!" amid the applause of his audience. The Congress, it may be observed, was one not solely of architects, but of architects and engineers bent on mutual improvement; and this idea of asking representatives of the two professions to co-operate in such a congress has been, the correspondent of *La Semaine* remarks, eminently successful. It is an experiment which might well be tried in this country, where the demarcation between the two professions is far more marked than it ought to be.

THE telegraphic report from Paris of the results of the meeting of the committee formed to defend the interests of the French shareholders in the Suez Canal must not, we take it, be understood to signify the deposition of M. de Lesseps from his post, but only the election of M. Magois as president of the committee. But, at all events, the owners of something like 1,000 votes appear to have been unanimous in their condemnation of the very modest concessions proposed by M. de Lesseps to the British shipowners. Bearing in mind the inadequate representation of British shares in the Canal which that agreement would have perpetuated, this hostile movement may be regarded with satisfaction. A thousand votes are nearly half the largest number that have ever been given at a meeting of the Canal proprietors. In 1872, 1,459 votes were given for, and 704 against, M. de Lesseps, whose authority, from that date to the present, has been unquestioned. The present schism is likely to produce a dead lock in the management of the Canal, which will render it necessary for this country to make use of the voting power.

THE Roman correspondent of the *Times* mentions the discovery, at Il Sassone, in the Alban Hills, of extensive remains of a Roman villa, from which have been dug eighteen pieces of sculpture, including a copy of the Laocoön, rather smaller than the original. The other sculptures include a Marsyas, an athlete, a faun, and various vases and bas reliefs, &c.

THE debate on the second reading of the Metropolitan Board of Works (Further Powers) Bill on Wednesday afternoon ended with the acceptance of the second reading, with an intimation from Sir J. McGarel Hogg that it would be discussed, if possible, in a Committee of the whole House, and in a Select Committee. The Bill, if it become law, will enable the Board of Works to expend money from the rates in opposing or supporting Bills relating to water-supply, and in other ways to assist those who may have the will and the reason to oppose overcharges, instead of leaving them, like the heroic Mr. Dobbs, to fight single-handed. Some of the elements in the debate were amusing enough. Sir W. Harcourt, in a satirical speech, congratulated the Board of Works and the Corporation of London on the eagerness that each had showed to bring forward a Water Bill since the idea of a general municipal government had been brought forward; but why had not the two bodies worked in co-operation? He feared they were bidding for popularity, "which was in itself an evil ambition." By some speakers the new powers to be given to the Board of Works were supported because their increased powers would go to prove that no alteration in the government of London was wanted; by others, because the conferring on them such powers was a step in the direction of a great administrative reform. The speech of Mr. Coope in favour of the water companies was the best part of the play. It appeared that the water companies cannot reduce their charges, in consequence of the expense of defending themselves from the attacks made upon them for the bad quality of their water; true, Mr. Coope did not quite put it in that way, or at least he did not seem aware that he was practically doing so. The companies were giving us a most liberal supply of water, of which no one could complain. "Too liberal," the consumers may say; "they supply us with solid food, as well as with drink."

THE exhibition in Messrs. Arthur Tooth & Son's Galleries, open to private view to-day, includes some interesting works. Among them there is special originality in a painting entitled "Prayer," by L. Nono, where a figure is kneeling in the middle of a road in front of some large shrine, the architectural details of which are painted with much force and realism. M. Julien Dupré's two works are remarkable for a broad free style of painting, indicating texture by variation of light and tone, and not by working-up of detail. This is specially to be noticed in the large painting "Minding the Flock," where the painting of the sheep is quite a study of artistic handling, and contrasts remarkably with the style and manner of some flocks that appear at regular intervals on the line at the Royal Academy. Benjamin Constant's brilliant though rather superficial work is illustrated in "The Carpet Seller," and one or two smaller paintings. Mr. Brett's "Plymouth Breakwater," with the white breakers flashing at intervals over the long wall, is a fine sea-painting in his most free style of painting rough and windy sea, of which we should be glad to see a little more, as a variation from his constant run of calm weather lately. There are other good works in the collection.

THE *Pall Mall Gazette* of the 25th of February prints a long communication from a large landlord to whom is given the pseudonym of "Romney Leigh" (in reference to the capitalist reformer in Mrs. Barrett Browning's well-known poem) on the vexed question of the poor and their dwellings. "Romney Leigh" contends that the large ground-landlords are not to blame for the grinding of the poorest class of tenants, but the middle-men. He can give the names of middle-men sub-letters on his own estate, who make at least sixty per cent. on the rent which they pay to him. If those who, like Mr. Chamberlain, abuse the ground-landlords for plundering the poor would look into the matter, they would speedily discover that it is not the ground-landlords who profit by rack-rents. He complains that the ground landlord, when he wishes to do well, has not the necessary powers. Give him more authority over the leaseholders and all their subtenants, to compel them to comply with the covenants in the original leases. "Romney Leigh" is at present engaged in a law-suit which will raise the whole question whether the ground landlord has any authority whatever to insist on the covenants of the original lease, when the original lessee and his executors have severed all connexion with the property by sub-letting it. If this case goes against him, he is powerless to do anything until the original leases fall in, thirty years hence, when the generation we are now seeking to benefit has passed away. He has houses on his own estate which he has implored the Sanitary Authorities to condemn as unfit for habitation. But they are technically within the provisions of the Act, and there they will remain thirty years. "Romney Leigh's" conclusion is,—increase the power of the ground-landlord, and force him to discharge his responsibilities by depriving him of hi privileges when he ceases to perform the duties of his position. We hope, here be truths.

A CORRESPONDENT sends us another example of the liberalities of architectural competition as offered to a discerning profession, in the shape of what he truly calls a "degrading advertisement" in a Welsh newspaper, setting forth to architects "and others" that the Swansea Corporation will receive designs for a building to comprise Public Library, Art Gallery, and Schools of Science and Art, for which they will give a premium of 30*l.* for the best design, reserving it as their property, not binding themselves to accept any design. Nothing is said as to the architect "or other" who may gain this handsome premium, being employed on the carrying out of the work. The sum proposed to be expended is said to be about 10,000*l.* The ordinary commission for making drawings for a building on that scale would be 250*l.*; for entirely supervising it, 500*l.* The Swansea Corporation have evidently an eye to business. It is to be hoped they will meet with the kind of response their munificence deserves.

THE Fine Art Society have on view, at their Rooms in New Bond-street, a very interesting collection of water-colour sketches on the Lower Thames, below London Bridge, by Mr. W. L. Wyllie, from which are to be taken the materials for an illustrated work on the subject, with twenty full-page and thirty text illustrations in black and white. The actual title of the work, "The Tidal Thames," conveys an erroneous impression, as the "Tidal Thames" of course extends to Teddington Lock; but the title of "The Lower Thames" was found, at the last moment, to have been appropriated. It is possible, however, that Mr. Wyllie may be able to continue his work of illustration in future up to the limits indicated by the title. The present collection of drawings is well worth a visit. No contemporary artist understands or paints shipping better than Mr. Wyllie; we might, perhaps, say,—none so well. He knows the character of Thames craft thoroughly, from the large steamers to the heavy barges which swing slowly up with the flowing tide; he knows how to bring out their picturesque side without losing sight of their true make and detail; and is showing us how much of character and interest is to be found in our river highway and its traffic. The literary part of the work is in the hands of Mr. Grant Allen, who possesses the same kind of combination of qualifications as Mr. Wyllie, being a writer at once accurate and picturesque.

THE logic of the well-meaning people who are always making "bitter cries" about the destruction of ancient monuments and works of art is truly inexplicable. There has been a gentleman writing under the signature of "Pictor" in a daily paper, speaking of the destruction of ancient monuments in Egypt, and calling upon us to remember that England had for two centuries previously taken the lead in the preservation of the remains of antiquity, and instanced the abduction of what are now called the Elgin marbles as a case in point. True enough we did preserve the Parthenon sculptures from almost certain destruction, but the act of removing them from their site is precisely one of the things which the people who now declaim about ancient monuments would, if they had lived then, have opposed by all the means in their power, as a wanton desecration, as Byron in fact did.

Sir Abraham Woodiwiss died at Mentone on the 24th ult. He began life as a working mason, and amassed a large fortune by railway and other contracts. He was Mayor of Derby in 1881-2.

THE ABANDONMENT OF THE RIGHT TO LIGHT.

IT appears from circumstances which from time to time come to our knowledge that many persons are not very clear as to the effect upon an existing and legal right to light of a blocking-up of windows or a pulling-down of the building. The law is correctly and shortly pointed out in the examples in Roscoe's "Digest of the Law of Light," p. 22, and it will also be found to be well stated in Gale as well as in Goddard on "Easements,"—books, perhaps, more suitable for lawyers than laymen. It may, however, prove both interesting and useful if we give a short space to this phase of the question.

As soon as a right is acquired, whether to light or any other thing, it can only as a rule be lost by either a voluntary transfer of it to another person or by a voluntary abandonment of it so that it ceases to exist at all. With voluntary transfers of the right to light we have not now anything to do; it is with the second branch of this subject that we are concerned.

And here, again, we come to another point, namely, that as a right can only be lost by the owner voluntarily abandoning it; the intention of this person so to do must be shown in order that it may be ascertained if a right to light has been abandoned. If the owner of a house in which was a window which had a prescriptive right to light were to block it up, and, at the same time were to inform all the persons living around that he abandoned any right to the light from that day forth, there would be no difficulty about the matter. But things are not done in this simple way, and when, as is usually the case, the owner of the right prevents himself from using it without any outward manifestation of his intention other than that of blocking up a window or pulling down a wall, it becomes less easy, if an attempt is subsequently made to re-assert the right, to say for certain whether the act was one by which the right was abandoned. Hence it has become the law that, as stated by Lord Chelmsford, "the right continues uninterruptedly until some unequivocal act of intentional abandonment is done by the person who has acquired it, which will remit the adjoining owner to the unrestricted use of his own premises. It will, of course," continues Lord Chelmsford, "be a question in each case whether the circumstances satisfactorily establish an intention to abandon altogether the future enjoyment and exercise of the right." So that it is obvious that if A asserts he has not abandoned his right, and B, his neighbour, equally stoutly declares that A has, by his acts, shown his intention of abandoning it, no one but a judge or a judge and jury can settle the question. How, then, is a legal tribunal to decide in such a dispute if a right has or has not been abandoned?

The Court must consider all the facts connected with the alleged abandonment. Of course, if a person pulled down his house with the obvious intention of rebuilding it, there could be little doubt of his intention. Thus, in one case a house was taken down, and a wall was left standing with holes in it, and practically the erection of the new buildings was contemporaneous with the destruction of the old. The Court scouted the idea that there could by any possibility be an intention to abandon the right. Again, in another case, the Ecclesiastical Commissioners, under an Act of Parliament by which they were bound to pull down a particular church in London, sell the materials and the site, destroyed the structure, and in the following year, when adjoining owners began to erect buildings which would have darkened the ancient lights if they had existed, it was held that the fact of the destruction of the church did not abolish the right to light, because it was obvious that the site was to be used for a different class of building; and, said Lord Justice James, "there is very little doubt that, so far as possible, the purchaser from the Ecclesiastical Commissioners will take care to preserve the rights of light." We are not now commenting on the effect of the law, but on the law itself, still it may be pointed out that it is carrying the doctrine of the existence of the right after the destruction of a building somewhat far when an old church can be pulled down, the site cleared with the intention of building, it may be, offices, warehouses, or dwelling-houses on the spot, and then that the right to the light to the old windows can be said to be still existing when it is scarcely physically possible that the windows of the new buildings can be in the same position as those in the old.

It is stated in two cases that if lights are so destroyed as to lead other parties to alter their position under the reasonable belief that the right had been abandoned, then the law will not interfere to protect the ancient light; that is to say, a person seeing the church in question destroyed might have bought adjoining land, and erected premises on it, believing that the right of light to the late ecclesiastical building was gone. We confess it would be very difficult to say that this man had not altered his position under a reasonable belief that the existing right had been abandoned.

Where, however, a window is built up or a blank wall erected for a considerable time, then there is clearly a *primâ facie* appearance of an intention on the part of the person so doing to abandon his right. "It seems to me," says Chief Justice Abbott, "that if a person entitled to ancient lights pulls down his house and erects a blank wall in the place of a wall in which there had been windows, and suffers that blank wall to remain for a considerable period of time, it lies on him at least to show that at the time when he so erected the blank wall and thus apparently abandoned the windows, there was not a perpetual but a temporary abandonment of the enjoyment." We may, as illustrative of the practical view which must be taken of an apparent abandonment, extract one of the illustrations given in Roscoe's "Digest of the Law of Light." A. is the owner of a house with ancient windows; in 1837 the owner for the time being blocks them up with rubble and plaster. In 1856 (nineteen years after), B., the adjoining owner, begins to build in such a manner as would, had the windows been open, have obscured the light. A. then opens his windows, and B. erects a hoarding in front. A. brings an action in respect of his right. The jury found that there had been no abandonment. If the windows had been actually bricked up and the wall made, so to speak, intact, then, in all probability, the jury would have found that there had been an intention to abandon the right. But when the apertures were simply filled in with a mass of plaster and rubble, it might fairly be said that the owner merely intended to suspend the enjoyment of his right, and to resume it when he thought fit, because had he intended to do otherwise he would have made permanent structural alterations. It is thus clear, also, that if windows were closed by solid permanent alterations, the fact that this had been done but a very short time before an alleged infraction of the right would weigh but little against the obvious intention of the owner of the building.

These practical remarks and illustrations will show our readers the state of the law on this important subject, and that no hard and fast rule exists as to whether or not the closing of a window or the destruction of a wall with windows causes the right to light to be abandoned. The facts in connexion with the alteration must be closely looked into, and when this has been done, probably a person of ordinary common sense will quickly be able to say whether there has been an intention to abandon a right to ancient lights.

THE DUDLEY GALLERY ART SOCIETY.

AN exhibition of water-colours was opened last week in the well-known gallery in the Egyptian Hall; whether this is to be considered as a winter exhibition, or as the usual spring exhibition come before its time, we do not quite understand. The exhibition is of much the same character as we have been accustomed to see there; we fear, if anything, not quite up to the average. Some good names which were generally represented have disappeared, and one or two unfamiliar ones attract notice. Among the latter Mr. J. Smart, R.S.A., is conspicuous for a genuine freedom and power of style in the treatment of landscape, as displayed in his drawings, "A Misty Mountain Top" (165), "Glen Dochart" (79), and "Dreary December" (287), the last a very fine and original drawing. Mr. J. T. Watts is good in "The End of the Year" (141), and "Burnham Beeches" (133). Mr. Herbert Marshall contributes a fine study of "The Foreshore at Blackfriars" (95), and Mr. Goff one of "The New Bridge Works, Putney" (29), a good example of a Lower Thames study of this class. Mr. Walter Severn exhibits in "Music on the Lagoon, Venice" (102), one of those brilliant studies of moonlight effect in which he excels; of certain Alpine scenes, "Under the Wellhorn," and some others, by the same hand, we feel not so much enamoured; there is a somewhat sickly and conventional green about the foliage. Miss Kate Macaulay's "A Bit on the Devon Shore" (57), a study of foreground mainly, is one of the best painted bits in the room. Mr. W. Bradley's "Henley-on-Thames" (217) and "Shiplake Backwater" (248) are careful and effective, but somewhat mannered works; Henley is the best. "London Bridge and the Monument" (294), by Mr. Hubert Medlycott, is another of the same class of subjects, rather similar in character; but London Bridge requires more powerful and sympathetic treatment than in this pretty, but rather weak, drawing. Among other things we noticed "A Breezy Day in June" (304), by Mr. Weedon; "The Fish Market, Venice" (323), by Mr. D. Law; "On the Pincio" (373), by Mr. A. B. Donaldson, a brilliant little bit of colour; "The Monument to Pope Innocent VIII., St. Peter's" (123), by Mr. St. John Mildmay, a good piece of architectural drawing; "Ancient Roman Arch at Aquina, now used as a Milldam" (457), by Mr. J. M. Donne, a good study of an unusual and interesting relic of antiquity; and one of the screens contains a minute study of sea by Mr. Brett,—minute in scale, we mean,—"A South-west Gale from the Lizard" (508), which looks like a grand sea-piece seen through a diminishing glass.

THE OFFICIAL INQUIRY ON THE PARIS BUILDING TRADE.

THE Commission of the "forty-four" appointed by the French Parliament to inquire into the prevailing distress has already held several sittings. So far the results of the investigations have only helped to demonstrate how difficult it is to obtain real knowledge of the case. When the matter had been debated by the National Assembly we showed, in an article on the subject, how the figures given by the Premier, M. Jules Ferry, differed from the estimates of the various trade unions concerned. Now, according to an equally good authority, both M. Ferry and the trade unionists are in the wrong. As the principal manager of the Crédit Foncier, M. Christophle's evidence, given before the Commission, is of so much importance, we will summarise his principal statements. M. Christophle estimates that there are about 25,000 employers in the Paris building trades. Many among them form associations, and obtain money, in the first instance, from the Sous-Comptoir, where advances are made on land and on foundations. When the construction is somewhat more advanced they come to the Crédit Foncier for a further and larger loan; and, even after this, there are other banks that will lend a third time on the building. M. Christophle states that there are in all about 76,000 houses in Paris, representing a capital of 480,000,000*l.* During the last nine years the Crédit Foncier has lent on building property 32,760,000*l.* The amounts borrowed have increased enormously; thus, only 640,000*l.* were lent in 1874, but this rose to 6,040,000*l.* in 1880, and to 7,160,000*l.* in 1882. The following year began, however, to show signs of decrease, for in 1883 only 5,360,000*l.* were advanced on building property. Half this money was lent on houses that already existed, and only 16,000,000*l.* on new houses; and, as the Crédit Foncier loans amount to about two-thirds the value of the house, we may estimate that these new houses are worth about 24,000,000*l.* Adding the cost of finishing and management, &c., M. Christophle is willing to double this amount, and thus attains a total of 48,000,000*l.* spent in building during the last few years,—a figure which falls far short of the 200,000,000*l.* mentioned by M. Jules Ferry, by the *Revue des Deux Mondes*, and by M. Paul Leroy Beaulieu. According to the same authority, 291 new houses were built in 1880, 265 in 1881, and 360 in 1882. The money lent on all this enterprise is refunded slowly, but peacefully; it has not been necessary to sell any of the property, and only twenty-two houses have been seized as security. From the *octroi* duties levied on building materials, M. Christophle arrives at the same conclusions as to the amount of money spent on building. The figures are about the same as those already

given, which are based on the amounts the Crédit Foncier has lent; but, in both instances, he is perhaps too apt to view the matter in the light of his own personal experience. M. Christophle's opportunities of judging the question, though of the most extensive character, do not, possibly, embrace the entire situation. Nevertheless the fact remains that, though the amount spent in building is very large and the increase during the last four or five years out of all proportion with the demand, it is not so great as was at first estimated. Practically, the result of the facts thus attained will be either to show that the crisis is not so acute as it was at first supposed, or else to throw a greater burden of responsibility on other than the building trades. M. Christophle inclines to think that Paris is simply suffering from a natural reaction,—a dull season after an exceptionally active season. The difficulties can be overcome: if the credit societies will make advances to those who have gone too far, and if the State will employ a larger number of men on public work while private enterprise rests itself from over speculation.

After M. Christophle the delegates of the house-decorators and painters were examined. They explained that there existed only one trade union in their corporation, though there were a number of smaller societies of about twenty members each. Actually a third of the trade was without employment, a third worked ten months in the year, and a third only eight months. The number of workmen varies considerably, but may be roughly estimated at about 10,000, of whom only 300 are regular subscribers to the trade union. They work ten hours a day from April to September, and eight hours during the rest of the year. But this winter the trade has been very depressed, and in many instances the workmen's wives have been compelled to seek work as charwomen, &c., while some of the men have offered their services as messengers, porters, &c., instead of working in their own trade. The delegates acknowledge that wages have risen considerably during the last twenty years. They were estimated at 5½d. the hour in 1868; at 6d. in 1873; at 6½d. in 1877; and at 7½d. in 1880. For 1882 it was agreed that 8d. should be paid, but this was not carried out. In most cases the price is 7½d., and there are some firms that have profited by the present depression to give only 7d. or 6d. One of the workmen delegates argued that to increase building enterprises would simply draw to Paris a still larger number of foreign workmen. He would, on the contrary, even prefer to stop such works as are now employing strangers, so that Parisian industry should become autonomous, sufficing for itself without foreign assistance. The same speaker was also much opposed to State charity, which he defined as a manufactory of infirm pensioners. State assistance destroyed the sentiment of fraternity and solidarity by which workmen helped each other, and he urged that they should create mutual benefit funds such as the Parfaite Union, which already boasted of 200 members.

The delegates of the marble-cutters thought that their trade did not number more than a thousand workers, of whom eight hundred belonged to the union. Some three hundred workmen are now without employment; the day's work is fixed at ten hours, and the wage varies from 5s. 8d. to 6s. 5d. The depression in this trade continued last year, and was partly due to the competition of Belgian-worked marbles which enter France without paying any duty. There are no benefit funds in this trade, and the delegates did not believe in the possibility of instituting them without the aid of the Government. A co-operative productive society had existed for fourteen years, but was now in danger of collapse through the competition of the employers. The delegates suggested that the Government should supply means to those who wished to leave Paris and return to their native country. They also advocated a severe sanitary law, which, while improving the health of the town, would create the necessity of extensive repairs, and thus provide work for the artisan class (!) They further urged that taxes on articles of primary necessity should be remitted, that the time of labour should be reduced to eight hours, and the housing of the poor rendered possible by imposing a heavy tax on all unoccupied apartments. Finally, contracts should be given to the workmen's unions and not to private speculators.

The delegates of the stained wall-paper trade asserted that there had been a gradual falling off in their business since 1876. Nevertheless, the depression was not so severe last year as in 1882, for it appears that a new market for the sale of French paper was opening out in America. There are in all about 370 workmen engaged in this trade, and they nearly all belong to the union. Though this is the busiest time of the year, a fifth are without employment. The ordinary wage is 5s. 3d. per day, and the union gives 1s. 8d. per day for two months to members out of employ. The delegates complained that new machinery had injured the position of the workmen, and that they had also suffered from a number of legal squabbles relating to patents taken out for the manufacture of especially rich papers. The treaties of commerce also failed to protect this industry from foreign competition.

While the Commission of the forty-four gathered the above evidence, the delegates of forty-five Paris trade unions met at the Salle Horel and reaffirmed the programme of the Socialist Federation of French Workmen, which we have already described in these columns. Every delegate condemned the principle of free contract, and insisted on State intervention. Thus they proclaimed the necessity of establishing a minimum wage, and that it should be illegal to employ workmen under the town tariff. Extravagant as these opinions may seem, they are the outcome of a representative meeting, and such views are not confined to Paris, but have also taken deep root in many provincial districts.

THE BUILDING OF TOWN HOUSES.

CANTOR LECTURES, SOCIETY OF ARTS.

MR. R. W. EDIS, F.S.A., delivered the first of a course of three Cantor Lectures on this subject on Monday, the 18th ult., in the hall of the Society of Arts. He observed that the speculative builders,—and under that term he included not only the host of small men who helped to raise, fungus-like, the streets of flimsily-built cottages and fourth and fifth rate houses which disgrace our suburbs, and form the houses of the bulk of our working-classes, but also those larger capitalists who have carried out, in the last twenty years, the innumerable streets, squares, and terraces, in our more fashionable quarters, and whose erections, from an art point of view, are, to a large extent, equally to be condemned,—had too long had their way without control of any kind, save that which is provided for under the Metropolitan and other local Acts, and which simply permitted of the district surveyors insisting upon certain thicknesses of walls, but gave them no pewer to reject inferior materials, or to prevent the too-often "scamped" and utterly unsound work, or the utter disregard of all known sanitary laws. It was, the lecturer thought, high time that every house erected in great centres of habitation should have some *systematic* supervision during its construction, so as to ensure its fitness for occupation. Within the last few years the Metropolitan Board of Works had recognised the necessity of seeing that all buildings of which the drawings were submitted for their approval were thus supervised, and they had a special officer whose duty it was to see that the specification was properly carried out, and that sound and proper materials were used; but this supervision was extremely limited, as it only applied to buildings carried out on the property of the Board. In all towns there were, it was true, certain local Acts which, to a limited extent, insisted upon a minimum amount of cubical contents and a minimum height in the various rooms, and upon certain minimum superficial contents in the back areas; they also required that some sort of sanitary arrangements should be carried out, so far as drains, &c., were concerned, but these requirements were often evaded. In the building of new houses and the reconstruction of old ones it was essential that proper regard should be paid to the rapid growth of sanitary science. If Government could not take up the work of supervision, and provide for such competent inspectors as might be necessary (and whose business it should be to certify that every new house erected was built of sound materials, was properly drained and ventilated, and, in fact, that it was a healthy habitation), surely it would answer the purpose of a private company to take up the matter on a large scale, and, for some moderate fee, make a proper inspection of any building and certify as to its general soundness and its fitness for occupation. Practically there was no real supervision of a vast proportion of the houses we lived in; perhaps one per cent. of the houses erected were designed and superintended by a competent architect, the other 99 per cent. being left to the tender mercies of the ordinary speculative builder. Even where an architect was employed, the ignorance of some Jack-in-office, or the absurd requirements of a local Vestry or Board, or of an estate-agent, bound him with red tape, and fenced him about with difficulties and requirements which acted prejudicially not only to the individual lessee, but to the whole of the surrounding district. It was earnestly to be hoped that within the next few years a law would be passed compelling the ground landlord to enfranchise, on terms equitable alike to himself and the building-owner, so as to prevent, as far as possible, any really unfair interference, which is based on supreme ignorance or the mere exercise of power of brief authority. All legal restraints on the part of property owners, or on the part of local authorities, which were based merely on caprice or ignorance, must, sooner or later, be swept away. The common sense of the people, their necessities and requirements, based on higher knowledge, will insist that the monopoly of sites in crowded towns shall not be vested in the hands of a few individuals without the lessees having the right of equitable redemption of the ground rentals. The present system of leasehold tenure in England generally was as iniquitous as it was unjust, leading, in many instances, to inferior work, overcrowding, and general badness of building, and, by the narrow-mindedness and ignorance of grasping agents, to the setting aside of all modern improvements in building and construction. While it was necessary to have a uniformity of, and strict compliance with, sanitary regulations, it was by no means necessary, and very far from desirable, to attempt to exact anything like an approach to uniformity of design in our houses, while to sacrifice internal comfort, light, and ventilation to some special order of fenestration, Greek, Roman, or Italian, or to the cramped and narrow lines of a Mediæval fortress or building of bygone ages, was evidence of nothing but poverty of thought or narrow-minded conventionalism, as much opposed to all true principles of architecture as to the wants and requirements of the people of the nineteenth century. Comfort and convenience of arrangement; ample light and ventilation everywhere; protection from damp and miasma and impure and unhealthy smells; provision of the means of warmth; freedom from draught; adequate ventilation; and a supply of pure water were first of all to be considered in every house. The elevation should be subservient to the plan and the constructional requirements necessary for the provision of all the *desiderata* mentioned. Having quoted from the writings of Dr. Richardson to show the extent and variety of disease arising from unhealthily-built and ill-arranged houses, the lecturer insisted upon the great sanitary value of sunshine, which could never enter rooms of certain aspect without the use of semi-octagonal or circular projecting windows, with side lights. Yet these projecting windows found little favour with local authorities. There was no sound reason why such projecting bays should not be allowed, provided that they were so arranged that they did not look into each other. Why, too, could not the backs of our houses be made more decent, if only by means of glazed bricks, varied occasionally with bands of colour. Of course glazed bricks were more expensive than common stocks, but the extra expense would be more than repaid by the extra light and better air, for the glaze made the bricks non-absorbent, and every shower of rain washed the walls faced with them clean. The laying out of streets and squares in towns had changed very little in the last few hundred years, but why should we not have every new house in such places as Berkeley and Grosvenor squares built with projecting oriels and bays, and with high-pitched gables? The former would add materially to the light and comfort, not to say anything of the artistic character of the rooms, while the latter would surely be preferable to the generally miserable so-called dormers, which were, as a rule, set back behind the balconies or parapets in the attics of most town houses; these, it was often said, were "quite

good enough for servants"!—a selfish, cruel, and even suicidal view, for if we were to have servants in health and fitted to carry out their daily occupations with comfort to themselves and justice to their employers, their rooms should be just as light, airy, and cheerful as any others in the house. It was matter for congratulation that there was at least one large owner of land in London who set a good example on his own property by encouraging, in every way in his power, a departure from the old-fogeydom of street design. He referred to the Duke of Westminster, who encouraged the use of projections and gables, and the introduction of modern improvements in building. All town houses must necessarily be influenced by local conditions, and these conditions must materially influence all questions of general aspect. With regard to external design, he did not insist upon any particular period or style of architecture; indeed, it must be more or less eclectic if we wished to combine in the façades of our buildings the excellences of the past with the improved materials and appliances of the present. But he did strongly insist that the external design should and must be subservient to the internal requirements,—that light, air, ventilation, and common sense requirements should in no way be sacrificed to the external design; for no beauty of mere architectural effect would compensate for discomfort and bad internal arrangement. Gothic tracery and pointed openings were not suited to ordinary sash-windows, and it surely was inconsistent with modern street design to attempt anything in which one or another of the so-called "Five Orders" of Classic architecture had to be worked into a house in which the frontage was perhaps 18 ft. or 20 ft. at most. Where this sort of thing was attempted in the beginning of this century in the terraces of Regent's Park, generally two or more houses were embraced in the design, — a manifest inconvenience and absurdity when one owner wanted to paint his front red and the others wanted to have theirs yellow. The vulgarity and unartistic pretentiousness of the host of modern buildings erected in our fashionable suburbs in imitation of Italian palaces or Roman temples, with sham plaster columns, gigantic pediments, and unmeaning cornices, could not be too strongly condemned. The fashion of the present day was running into modern Dutch, or so-called "Queen Anne," and inasmuch as this style permits of ample fenestration, and does not limit the size of light openings, and relies for its piquancy and character on honest red brick instead of sham plaster and vulgar imitation, we may be thankful for the revival of a sixteeenth and seventeenth century Renaissance school of architecture, which gives us at least colour and picturesqueness in our London streets. We could obtain readily in London first-class red bricks or terra-cotta, and both these materials are more lasting and more suitable to London smoke and the deleterious action of the London atmosphere than almost any stone which exists. Glazed and coloured brick and faïence and terra-cotta admit of almost any variety of design, and give picturesqueness, warmth, and colour where all are wanted. If importance is wanted in an elevation let it be obtained by good sculpture in such portions of the buildings as are nearest the eye-line. A porch properly treated with good modelled decoration, either in figure or relief ornament, can be made as imposing as you like, while balcony-fronts can be of good wrought-iron, like some of those in the old picturesque towns of Spain and Germany, instead of being lumpy and heavy with balustrading which not only shuts out light and prospect from the rooms, but suggests an element of danger by its utterly false and generally insufficient construction. So far as his experience went, the public generally were unaware of the real advantages and merits of terra-cotta as a material for facing street-fronts. It was greatly superior to ordinary brick or stone as a building material in crowded towns. In the first place, when properly burned, it was absolutely impervious to smoke, and was unaffected by acid fumes of any description; it was about half the weight of the lightest building stone, and its resistance (when burned in solid blocks) to compression was nearly one-third greater than that of Portland stone. It was non-absorbent, and readily moulded into any shape. Within the last two or three years Mr. Holroyd, of Leeds, has materially improved the glazing of terra-cotta and fireclay, and under the name of "Burmantofts Faïence" he is producing most excellent material for external and internal work, for which almost any colour of glazed ware could be readily obtained, at a price very little in excess of good Bath stone. As to iron railings, the lecturer strongly condemned the hideousness of most of those to be seen in London, and pleaded for the greater use of artistic wrought-iron work, particularly as it was to be had for a very small extra cost. It would, said the lecturer in the course of his concluding remarks, seem as if the sense of sight and the love of the beautiful, when applied to ordinary everyday matters, were not appreciable elements in the ordinary English character, or it would be impossible to believe that, year by year, we should be content to accept and pay for things which were not only vulgar and commonplace, but inartistic and detrimental to any real improvement in our street architecture.

In his second lecture, delivered on Monday evening last, Mr. Edis treated of the planning, sanitation, lighting, heating, and ventilating of town houses. Having pointed out how the due consideration of all these points on the part of architects and builders would conduce to the comfort of the occupiers and save the labour of servants, he graphically described some of the many annoyances experienced from the lack of this consideration. He then went on to point out that while many people were obliged, by business and other exigencies, to live in certain districts, they practically had to take what they could get in the way of houses, and to take them, more or less, on trust, not being inclined, even if the landlord would permit it, to have a house pulled about and thoroughly examined, and then, if they did not like what they might find, to make good all damage, at great cost. It was not fair to ask the incoming tenant to pay for professional advice on such points, unless he knew what he was about to take, and was prepared to add to his yearly rental, for the term for which he took the house, by sinking a certain sum of money in making good the manifold defects of a house, and, in fact, doing the landlord's work,—true, for his own present comfort, but for the ultimate benefit of the landlord, who not only accepted without thanks or return of any kind all improvements made by the tenant, but put in a claim for dilapidations on the expiration of the lease. All this sort of robbery,—for it was nothing else,—demanded Government interference. The tenant should have the right to recover for all work done which could be shown to have been absolutely necessary for the healthy enjoyment of the house,* which had to be taken on trust as to its sanitary condition. If some law enforcing this could be passed we should have less bad building and fewer unsanitary houses, and when he (the lecturer) spoke of unsanitary houses he meant houses that were unsanitary not only from bad drainage, but from improper and unsound fittings, bad ventilation (there was usually none at all), and the generally-scamped nature of the work. It was gratifying to find that "Sanitary Aid Committees" were being formed in various parts of London in connexion with the Mansion House Council, for the purpose of bringing to the notice of the officers of health of the various metropolitan vestries all houses which contained in themselves nuisances not only dangerous to the individual occupiers, but to the community at large. These committees were publishing information as to the powers of the existing Acts as bearing upon the duties of landlords. He believed that a Bill had lately been introduced into the House of Commons to provide for a much better and more systematic supervision of all new buildings, whereby a tolerably sound construction might be insured,—for instance, that the foundations be dry, and a proper damp-course inserted; that the drains should be laid of adequate size and to a proper fall, and properly ventilated and cut off from the main sewer, so that there be no direct communication between the house and the drains; that all closets, slop-sinks, &c., shall be in proper situations, and properly ventilated, and not opening direct into the house from the top of the staircase, as was often the case in many houses built fifty years ago. In short, the object of the Bill was to carry out some such general scheme of sanitary arrangement as was shadowed forth in the previous lecture. It was much to be feared, however, that the question of the appointment of the inspectors under the Bill (if it passed into an Act, and so became law),—which was to be vested in the various local vestries or boards, subject to confirmation by the Local Government Board,—would be a rock on which there would be much foundering of good intentions. Inspectors qualified for all this sort of work must be men of position and standing, with ample general knowledge of all the details which went to make up the sanitary well-being and construction of the house, able to hold their own against all official Bumbledom and bullying,—men *sans peur et sans reproche*,—anxious to carry out their duties conscientiously. Such men could only be obtained at good salaries; but he believed, from personal knowledge, that with proper business-like control and management, ample funds might annually be saved by the Vestries from the present rates to pay a staff of such competent inspectors as he had referred to. Coming to the immediate subject of the lecture, Mr. Edis observed that good planning meant not merely the arrangement of a certain number of rooms on a certain number of floors, but careful and close attention to the general domestic requirements and arrangements of the ordinary household, and to all smaller details which made up the comfort and convenience of the houses. It meant that every foot of space should be properly laid out; that there should be no dark corners and no inaccessible places in which cisterns or lumber were to be stored; that every room, closet, and staircase should have ample light and ventilation; that staircases should be conveniently arranged, easy of going, with broad landings, and of sufficient width to allow of passing easily. Each room had to be considered, and its relative proportion and position in the plan. The dining-room should be so arranged that, although above the kitchen level, it was not at any unreasonable distance, so as to avoid labour and risk of accidents in the service. If it were possible in an ordinary town-house of the first or second class, the dining-room should be placed at the back, for as it was rarely used except at meal-times, a good outlook was not necessary, while in summer-time the opening of the windows would not cause the dinner party to be overlooked from the street. Next the dining-room should, if possible, in every house, be arranged a small service-room, with a light service-lift from the basement. This lift should descend not into the kitchen itself, but into a small china closet or pantry, close to the kitchen, so that it might not act as a funnel or shaft for the ascent of the smells from the kitchen. In the service-room should be a small hot-plate, heated by gas, so that the plates might be taken hot into the dining-room. It should also be fitted up with sink and cupboards for the washing-up and storage of glass and china, so as to save time, labour, and risk of breakage. If this special service-room could not be provided, a small lift might easily be arranged in the buffet, or at one end of the dining-room. To the lift a speaking-tube or electric bell, or both, should be attached. As a rule a dining-room must have a central light over the dining-table, but this should not be of such a size as to impede the view from either end, or to throw down a great amount of heat on the heads of those who sit around it. A small light, with shade made to throw its rays direct upon the table, with—if gas be used,—side brackets next the side-board and on either side of the mantelpiece, so as to distribute the light all over the room, was infinitely better than a great blaze over the table. Nothing was so unpleasant in a dining-room as the heat, which too often in London rooms made the air of a dining-room close, stuffy, and unbearable. To avoid this it was essential that pure air should be introduced and distributed over the room to take the place of that which necessarily became foul and tainted. If there were no means of providing fresh air, and no means of extracting foul air, it followed that, in a very short time, the good air originally contained in the room would become tainted, and, after a time, heated and foul. This could be easily prevented by providing say in each corner of the room a tube, adjusted in proportion to the size and height of the room, for the access of fresh air through gratings from the outside wall. The current and the amount of air injected, so to speak, into the room could be easily regulated by an ordinary butterfly-valve, and all dust and soot and other impurities

* Something of this kind has been advocated in the *Builder* (see p. 52, *ante*).—ED.

kept back by a piece of fine silk or wet sponge. These tubes were often put in much too small, and the size of the outside gratings was not considered. In all cases the size of the tubes should be proportioned to the cubical contents of the rooms, and the external grating should be practically twice the area of that of the mouth of the tube, as the ironwork of the grating, as a rule, diminished its usefulness in ventilating area by about half. If it were not possible to arrange for an extract-shaft in the ceiling, a large-sized ventilator might be put in the flue over the fireplace, provided always it be fitted with talc flaps to prevent all back-draught. In large rooms the fresh air may be brought in over hot-water coils fitted as seats in the window openings, and controlled by proper regulating-valves. The lecturer had recently had this system admirably carried out for him, in the new Ball-room at Sandringham. In ordinary houses no feature was so wanting in thought as the arrangement of the staircase. As a rule the front door opened from the street into a narrow passage-way (with, perhaps, an internal screen with folding-doors, which were rarely shut), and immediately opposite was the main staircase of the house, so that any one on entering not only commanded the absolute thoroughfare of the house, but saw everybody who went up or came down, by which the privacy of the house was materially interfered with, and the whole house was made subject to sudden draughts of cold air, which were driven up the well-hole, as it was called, by the opening of the street-door. There was no reason why the ordinary narrow entrance-passage should not be increased 2 ft. or 3 ft., so as to make a moderate-sized hall, in which there might be placed a fireplace with ventilating grate, which would help to supply warm fresh air all over the house; and by a little care in planning the first flight of stairs at least might be screened from view. The staircase itself, whether it be of wood or stone, should never rise more than 6½ in. to each step, and, if possible, a landing or resting-place should be arranged every twelve or fifteen steps. The half-landings in ordinary London houses were insufficient, and all winders were fatal to a good staircase. The library might be arranged as a comfortable and quiet apartment at the back, while the front space might be devoted to the morning or general reception room, in which all the cheerfulness which the outlook into a London street gave should be obtained. But the entrance and hall should not be sacrificed entirely to these two rooms. An extra foot or two in the passage-way would not only make a house more imposing, but would materially add to its comfort and convenience. The basements of London houses were generally so badly arranged and ventilated that they added materially to the stuffiness of the whole of the house. The whole surface of the ground under them should be covered with concrete, and proper damp-courses and ventilating air-bricks should be provided. The scullery should, as a rule, form part of the kitchen, where the kitchen was not used for servants' meals and sitting-rooms; it should not be shut off from the kitchen except by a low glass screen, so as to be under the immediate supervision of the cook, and not, as was so often the case, a small, dark, unpleasant, and ill-ventilated hole, in which unpleasant smells were supposed to be allowed. The whole of the scullery walls, and, as far as possible, those of the kitchen, should be lined with glazed tiles, and proper means of supplying fresh air and extracting foul air should be provided. Pantries and larders should also be lined with glazed tiles, and have slate or polished marble shelves; they should also have continuous currents of fresh air passing through them. In every basement a comfortable room for servants should be provided as a sitting-room, fitted up with book-shelves and cupboards, and, if possible, facing the street, so that the workers of the house might have some sort of spare room in which they might be at rest from their ordinary duties; for if people wanted good servants they must treat them as fellow-beings. It was hardly fair to leave them for all hours in the heated atmosphere of the working-rooms. The kitchen department should, as far as was consistent with proper and quick service, be shut off from the staircase of the basement, as this naturally acted as a funnel up which all smells ascended, so that when the door at the top which opened into the hall was open, they escaped and permeated the whole house. A swing door could generally be arranged at the bottom of these stairs, closed with one of those American valve springs which close the door at once without allowing it to bang. Too much care could not possibly be taken in providing all the necessary conveniences in every house in the way of store-closets, conveniently arranged near the kitchen, and properly ventilated. Every water-closet should be thoroughly ventilated, and all sink and bath wastes should be cut off from direct connexion with the drains. All drains should be laid and bedded in concrete, and have manholes at each end for purposes of inspection and cleansing. The drawing-rooms of a house should naturally be made as cheerful as possible, with the doors arranged so as to allow of the proper circulation of guests when when the rooms were crowded. The arrangement of windows and fireplaces should be carefully studied so as to allow of sufficient wall space for furniture; and in these rooms big and recessed windows and cosy nooks will help to keep them more livable and comfortable. As a rule he thought two fireplaces were a mistake, unless the rooms were absolutely divided by doors or *portières*, for when only one fireplace was alight there was a tendency for it to act as a pump and to draw down smoke through the other one. While the possibilities of planning in street houses were more or less limited by the nature of the sites, all ordinary houses could be materially improved by a careful study of the wants and requirements of the ordinary householder. In every house, on every floor, means should be provided for through ventilation from back to front. As a general rule London bedrooms were very often badly arranged, and the lecturer was inclined to think that the modern system of arrangement in French bedrooms might with advantage be more frequently carried out in town houses, so that the rooms might be available for the double purpose of private sitting as well as bed rooms. The bedroom might be divided up so as to form at one end,—that farthest from the window,—recesses for bed and washing closet, which could be screened off in the day-time by a curtain; and the rest of the room might be fitted up as a sitting-room. Dressing-rooms might with advantage be made larger than was usually the case; they should be of sufficient size to hold a bed if requisite. The nurseries of a house should be cheerful, well lighted, and well ventilated, and opening into each other. The servants' bedrooms in the attics should be made as comfortable as possible, and the roof so constructed as to prevent extremes of heat and cold being felt by the occupants. Somewhere in the top floor a box-room should be provided; and a cistern-room, easily accessible, and with a top light, was an essential in every well-found house. The lecturer, in conclusion, detailed the arrangements that should be made for carrying up hot and cold water-pipes, gas-pipes, bell-wires, speaking-tubes, &c., with safety and in such positions as to be readily accessible.

ANCIENT SCULPTURE.

ROYAL ACADEMY LECTURES.

PROFESSOR C. T. NEWTON, C.B., gave his first lecture on this subject at the Royal Academy on the 21st ult., and dealt with the monuments of ancient art which have been discovered between the time of Winckelmann [1717-1768] and 1850, reserving for his second lecture the description of the discoveries made subsequent to the latter date.

The lecturer said he regarded ancient sculpture with the eye of an archæologist rather than with the critical knowledge of a modern artist; and regarding the archæologist as rather a purveyor for artists and critics than as himself a critical authority, he would content himself with laying before students an aggregate of facts, and furnishing them with the dates, sources, subjects, and circumstances of works of art. The archæologist, he explained, studies not only museums, but also the sites whence come the objects with which museums are filled, and the manner of their discovery. Thus isolated works recall to him other works which stand in relation to them,—one statue illustrates another, one fictile vase recalls a second, and out of one germ the imagination creates a whole series of further developments. By this means he acquires the habit of mind which enables him to classify all he sees, to assign a certain or approximate date to every object, and to have ever before his mind one vast scheme of museums, through which he looks down the vistas of ancient centuries, and recals in historical sequence phase after phase of past life.

Museums did not spring into life with Winckelmann. They grew up gradually from the beginning of the fifteenth century. Before noticing the attempts made to form them, it would be well to trace briefly ancient art in its germ, growth, and decay. It grew up like a flower in genial soil, flourished for a period, and then died. Greek art probably began about 800 B.C., and, freeing itself from Phœnician and Assyrian influence, reached its perfection in the fifth century B.C., the age of Pheidias and of Pericles. From this period until a hundred years later it maintained its glory and beauty; for, complete harmony reigning between the political institutions and the religious faith of the Greeks, the State did honour to the gods, and the artists spent nearly all their time upon votive architecture and sculpture, working with a religious feeling and for a religious purpose, supplying the temples with figures of the gods, and with dedicated objects. These temples lasted from century to century, and became overcrowded, much like our modern museums; although, after the time of Alexander, art was employed more for gratifying the taste of private persons and less to please the gods, and so we found artists stimulated by the patronage of private collectors. Then followed the Roman conquest, when piratical consuls and generals took away the spoils of the temples in Greece and Asia Minor to ornament Rome. This taste led to copies being made for Roman villas and provinces, until the downfall of the Roman Empire in the fourth century A.D.

But for the depredations committed by the Romans, the Greek temples of Hellas remained intact until the third or fourth century of our era. Then Christianity won the ascendant, and Christian emperors handed over the property of the temples to the churches. Fire and earthquakes destroyed other portions, and the iconoclast was rampant everywhere in the work of destroying statues. Constantine the Great carried off many fine works of art to his new capital, where they remained until destroyed by fire when the Crusaders took Constantinople. The darkness of the Middle Ages swallowed up the rest of Greek art, and all disappeared, save the gems and gold and silver ornaments which the Church marked with the cross, and preserved in her sanctuaries for her own benefit.

In the thirteenth century came the first rays of a revival of art. We hear of an archbishop at Pisa, towards the close of this century, who arranged a number of ancient sarcophagi in the Campo Santo there. In the fourteenth and fifteenth centuries Cosmo, Lorenzo di Medici, Petrarch, and Rienzi called attention to the monuments of ancient art still extant in the Imperial city. Roman nobles carried on excavations all over Rome in order to adorn their palaces, and many interesting sculptures were found, such as the Farnese Torso, the Venus de Medici, and the Dying Gladiator. The first systematic museum was made at Rome by Pope Clement XI. early in the eighteenth century; and in the middle of the same century another museum was formed by Winckelmann in the Villa Albani.

In the first period of archæological activity a good deal was done in wrong directions. Taking the works of Pliny as their guide, scholars assumed when they found a statue corresponding in subject with one noticed by him, that it must be the original work which he described. This mistake was made in the case of the Niobe group, and other statues, whereas the Laocoön was almost the only subject of all those found in the fifteenth and sixteenth centuries, which had any real claim to rank as an original work known in ancient times. Thus the figure miscalled the Dying Gladiator is really a Gaul from a group executed by the Pergamene school; and the group supposed to be Arria and Pætus is a Gaulish chief and his wife. Again, the reading of Plutarch's "Lives" created a demand for portraits of the worthies of Greece and Rome, greater than the supply, and so many were manufactured for sale to ignorant amateurs. Another mistake arose from the large number of stray bodies, arms, and legs of statues which were found in

the excavations. These were indiscriminately put together to make statues, many of which were brought to England in the seventeenth and eighteenth centuries, and still form a part of English collections. Museums all over Europe were full of such errors and uncertified truths until the time of Winckelmann. He saw, it is true, through a glass darkly, but nevertheless it may be said of him that he was the first to distinguish the characteristics of true Greek art from those of debased Roman imitations. He did this by recognising the perfection of taste and purity of beauty inherent in Hellenic works. The disentombment of Pompeii and Herculaneum had been begun before Winckelmann came to Rome; but he took the greatest interest in the work then carried on, and had the opportunity of comparing the mural paintings of Pompeii with those of Rome. After developing the collection of the Villa Albani, he wanted to visit Athens, and to explore Olympia. But he died before this desire was fulfilled, and it was not in Italy, but in England, in the seventeenth century, that the movement to visit Greece was most strongly shown. Ever since the time of Charles I. the English had not been insensible to Greek art, although the taste for it had declined under the Commonwealth. The Earl of Arundel formed a collection of statues, in which the beautiful female bust which is now at Oxford held a place of honour; and other English collectors fanned the flame until the year 1738, when some gentlemen formed the Society of Dilettanti. This society sent Chandler and other artists to Asia Minor and to Greece, and Chandler was the first to visit Olympia in 1770. Between 1760 and 1790 Stuart's "Athens" was published,—a great work, which revealed Greek architecture to an astonished public. Ruins of Roman architecture had been known previously, and the porticos of Rome had been applied to eighteenth-century churches in London; but Greek architecture was only now known and studied, and it dawned upon England like a revelation.

Early in the present century the marbles of the Parthenon were bought by the British Government from Lord Elgin. These may be regarded as the greatest gift which any country has ever made to its museum, for they represent beyond all other existing works the age of Pericles and the work of Pheidias. In spite of the loss of the centre of the Eastern pediment and of many of the sculptures of the Western, enough is left to enable us to study it as a whole, and to trace the poetry of the frieze,—a composition more extensive and more poetical than any other extant ancient frieze. The next discoveries were made by Mr. Cockerell and his companions in 1810-12. They found the frieze of the Temple of Apollo Epicurius at Phigalia in Arcadia, and the figures from the two pediments of the Temple of Athene in Ægina.

From 1812 and onwards museums grew by fits and starts. In 1825 a new goddess sprang from the island of Melos, the Venus which is the glory of the French Museum. Whether she be Praxitelian or later than Alexander, we know nothing so beautiful as the nude part of her figure. In 1829, during the French expedition to the Morea, a partial exploration of Olympia led to the discovery of a metope on the site of the Temple of Jupiter. Between 1830 and 1840 the Acropolis at Athens was cleared of the modern buildings which encumbered the site, and here the temple of the Wingless Victory was discovered with its balustrade, on which were sculptured in high relief beautiful figures of Victories. These may belong to a great school of sculpture a little later than Pheidias.

The lecturer then dealt with the decade from 1840 to 1850. In 1842 Sir Charles Fellowes made some valuable discoveries in Lycia, and found a new style of sculpture, which may be regarded as a provincial style derived from Athenian models. Among those brought to the Museum are the Harpy Tomb and the Nereid or Ionic Monument. The date of the latter monument is not settled, but the lecturer was not disposed to place it earlier than 400 B.C. The first instalment of marbles from the Mausoleum was sent to the Museum by Lord Stratford de Redcliffe, 1846, consisting of that portion of the frieze which was built into the Castle at Budrum. In conclusion, Professor Newton drew attention to the collateral illustration which archæology derives from subordinate branches of ancient art. We have to study ancient sculpture in connexion with fictile vases, terra-cottas, coins, gems, and mural paintings. Of all these classes the one in which least progress has been made towards scientific classification is the science of gems. This arises from the fact that they can be so easily imitated, and that so few criteria can be fixed as to their genuineness. They are not, like coins, a science always moving on, the true basis, with inscriptions of classical archæology.

CHURCH DECORATION, BASSERSTORF.

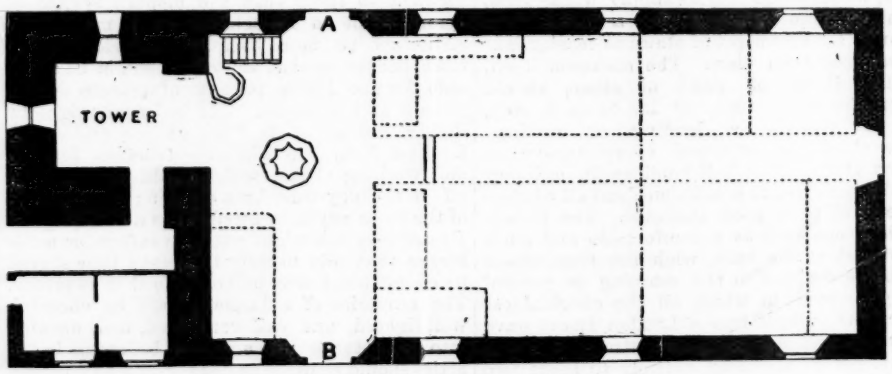
THE Church in Basserstorf,—a little village in Canton Zürich, Switzerland,—is in its exterior remarkable for nothing but extreme simplicity. The ground-plan is an oblong of 27 mètres long by 11 m. wide. At the choir end 6 m. of the length are taken up by the tower and two rooms and a passage. One of these rooms serves as a chamber of detention, which, thanks to the orderly state of the population, is seldom used. On the opposite side, under a double flight of steps leading to the gallery, is the principal entrance to the church; besides this there are two doors at the side. The interior represents an undivided hall, 20 m. long by 9·50 m. wide and 6 m. high. Opposite the pulpit is a gallery 7 m. wide. Although the interior is simple it is not entirely without beauty, possessing a warmth of colouring, quite a contrast to the usual white-washed walls of the Reformed churches. This is principally due to the wooden ceiling and wainscoting, which have assumed a rich brown colour. Besides this the balustrade and the ceiling under the gallery have been modestly painted in grey-blue on toned white, causing on the whole a good harmony of colour.

To find a suitable way of heating the church was the original cause of the present renovations. The wooden ceiling is to remain, although the first idea was to replace it with one of plaster. The wainscoting is to be renovated, new seats are to be supplied, and the irregular floor is to be made even. The arrangements for heating with hot air are to be made in the above-mentioned chamber, the removal of which out of the church has long been wished.

Above the wainscoting are to come paintings in sgraffito, shown in our illustration, and these will call for some slight alterations in the woodwork; for instance, the cornice will be continued straight round, which is not the case at present.

The arrangement of the paintings presented some difficulties on account of the irregularity of the pillars and windows and the large openings necessary for the introduction of warm air, especially as the walls themselves were not to be altered. The painting commences directly above the cornice of the wainscot, and has been treated in perspective; the tablets are also painted, no relief work whatever has been used. Above the cornice, at intervals all round the church, are the tablets on which different Scripture texts are written. The upper cornice forms at the same time the parapet for the dwarf gallery, and the impost moulding of the windows on the three other sides. These long arched windows (semicircular) reach down to the wainscot.* To match the arched opening for the choir is painted a corresponding arch, through which is to be seen the representation of Jacob's ladder. The dwarf gallery runs the entire width of the choir end, and on each side, until over the side doors it is discontinued. The two scenes given in the illustration represent—to the left, the "Prodigal Son," and to the right, "Christ blessing little Children." Over the right door the worshipping shepherds; over the left door are depicted the "Money-changers in the Temple." Besides these paintings, on each of the long sides of the church between the windows, and corresponding to them, are two principal pictures representing the "Crucifixion" and the "Ascension." The general drawings of all the architectural parts and the designs for the pictures are executed by Herr Alexander Koch, the architect; the figures by Herr Freitag, master at the Gewerbe-Museum in Zürich.

The portion of the design shown in our engraving is the end wall at the tower end of the church, as it would appear in elevation if a cross section were taken through A B. It is engraved by Mr. J. D. Cooper from a photograph kindly furnished by Herr Koch.



Plan of Church, Basserstorf.

* Above the tablets on the choir side are the three railed openings for the hot air.

PUGIN STUDENTSHIP SKETCHES.

WE give this week two more of the sketches by Mr. J. G. Sankey, the winner of the Pugin Travelling Studentship this year: the chapel of the Red Mount, Lynn, showing a good, clean freehand sketch of vaulting; and a characteristic bit from Haddon Hall.

HOUSE, CARLISLE.

WE give an illustration this week of a new residence now in course of erection in Chatsworth-square, Carlisle, for Mr. W. H. Scott.

The plan arrangement is simple, the morning and dining rooms being placed on the ground-floor, as are also the kitchens, which are conveniently arranged for serving, without taint or smell of cooking operations reaching the principal hall. The drawing-room is placed on the first-floor, stretching the full length of the frontage to Chatsworth-square.

The house is being roofed with tiles. The contractors for the builders' work are Messrs. C. & J. Armstrong, and for the carpenters' and joiners' work Messrs. W. & H. Davidson. The facing and moulded bricks are being supplied by Mr. Edwards, of Ruabon; the terra-cotta tiles in gable panels by Messrs. Wilcock & Co., of Leeds. Red stone dressings are sparingly introduced from the Newbiggin Quarries. The works are being carried out from the designs, and under the direction of, Mr. George D. Oliver, of Carlisle and Workington.

NEW SCANDINAVIAN CHURCH, LIVERPOOL.

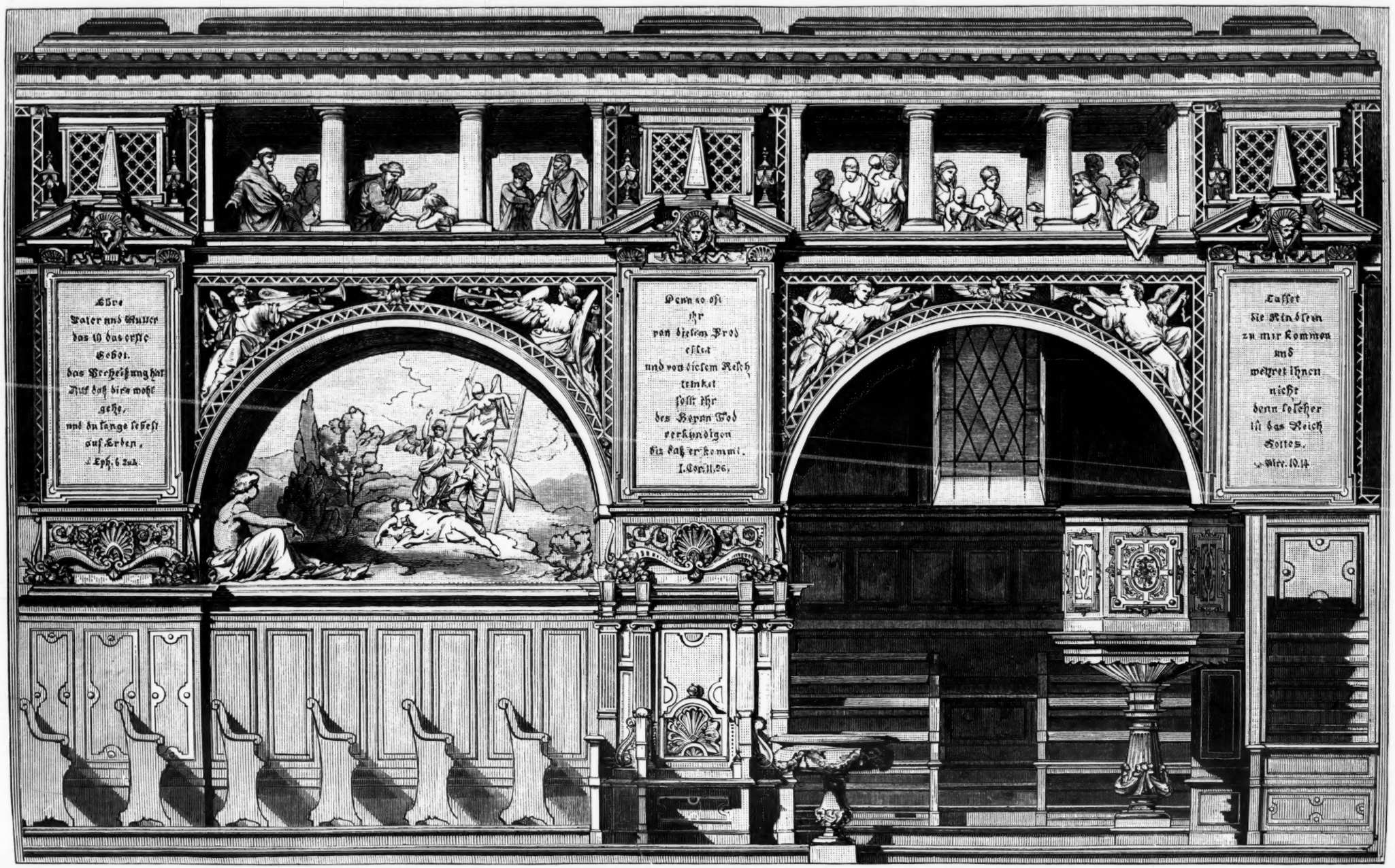
THIS church is being built in Liverpool by the Foreign Missionary Society of Stockholm, aided by contributions in this country, for the use of the Scandinavian sailors and emigrants, of whom about 50,000 annually visit the port.

There will be 550 sittings provided. A house for an assistant pastor is attached, and beneath the church is a spacious assembly or reading room, adapted for use as a lecture-hall.

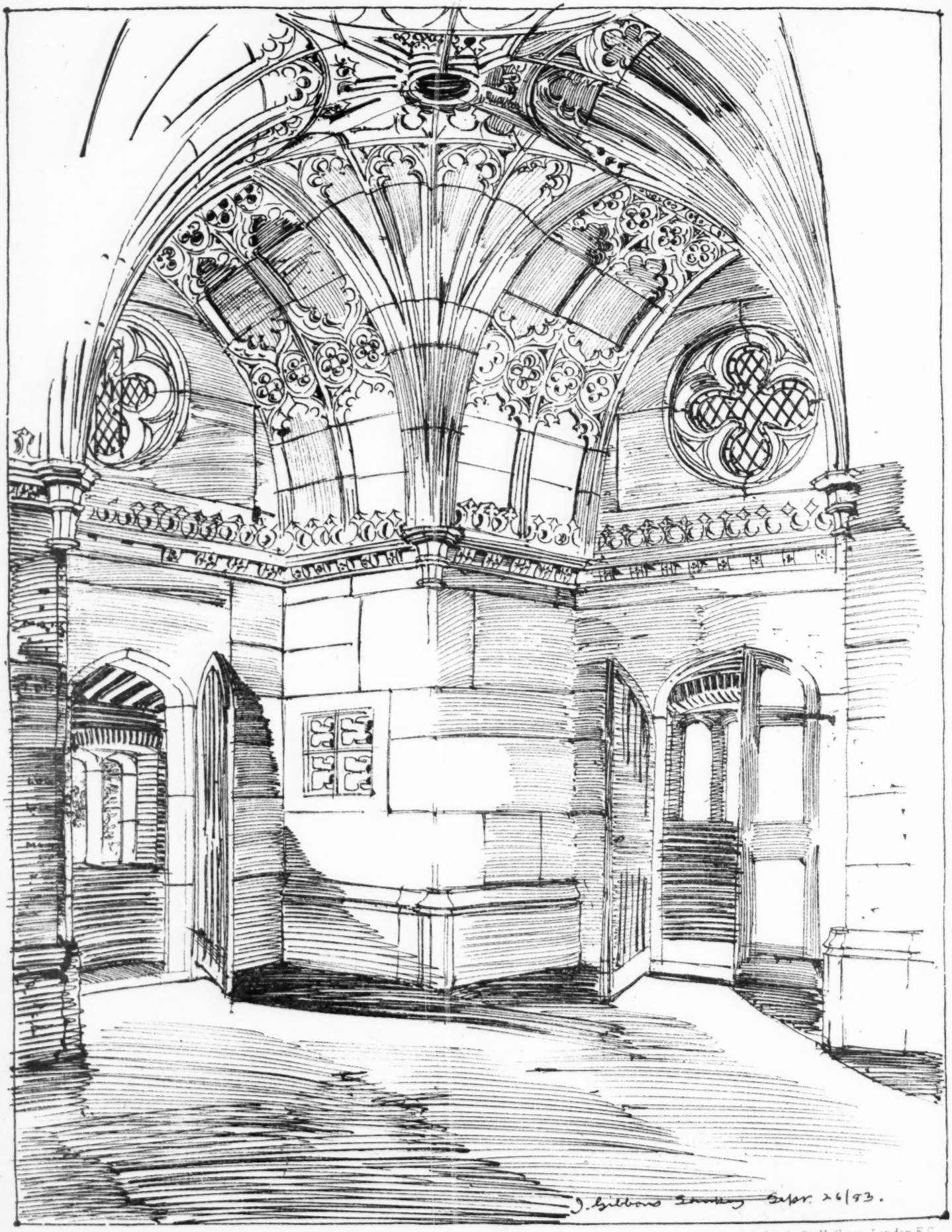
Mr. John Shillitoe, of Upper Norwood, is the builder, and Mr. W. D. Caröe, M.A., the architect.

INTERIORS AT HOUSE, ENGLEFIELD GREEN.

THESE pretty and attractive sketches of interiors, in which picturesque effect is obtained without overstepping the reticence of style and decoration suited to an ordinary residence, are from a house built from the designs of Mr. R. W. Edis. We report elsewhere Mr. Edis's theory on the building of town houses, and have pleasure in illustrating at the same time his practice in the building of country houses.



DECORATION OF CHURCH, BASSERSTORF, SWITZERLAND.——Herr Alexander Koch, Architect.



C. F. Kell Photo-Lith & Printer 8 Castle St. Holborn London E.C.

• SouthWestView •

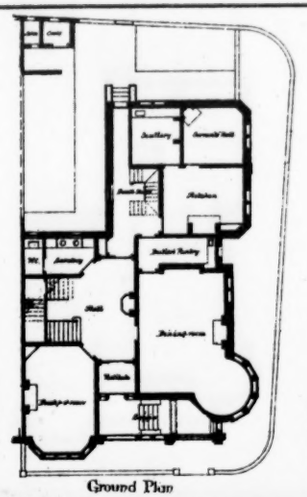
CHAPEL OF THE RED MOUNT, LYNN.

R.I.B.A.—*Pugin Travelling Studentship*, 1884.

New Residence. Chatsworth Square. Carlisle.

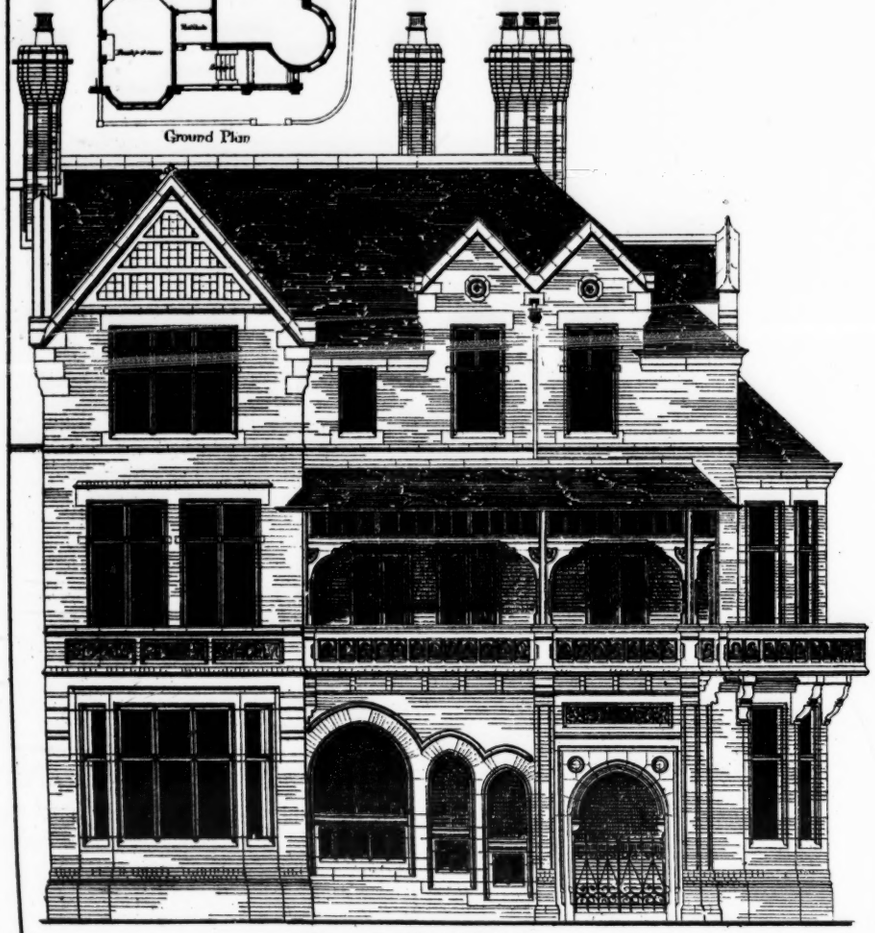
MR. G. D. OLIVER, A.R.I.B.A., ARCHITECT.

Scale of feet.



Ground Plan

First Floor Plan

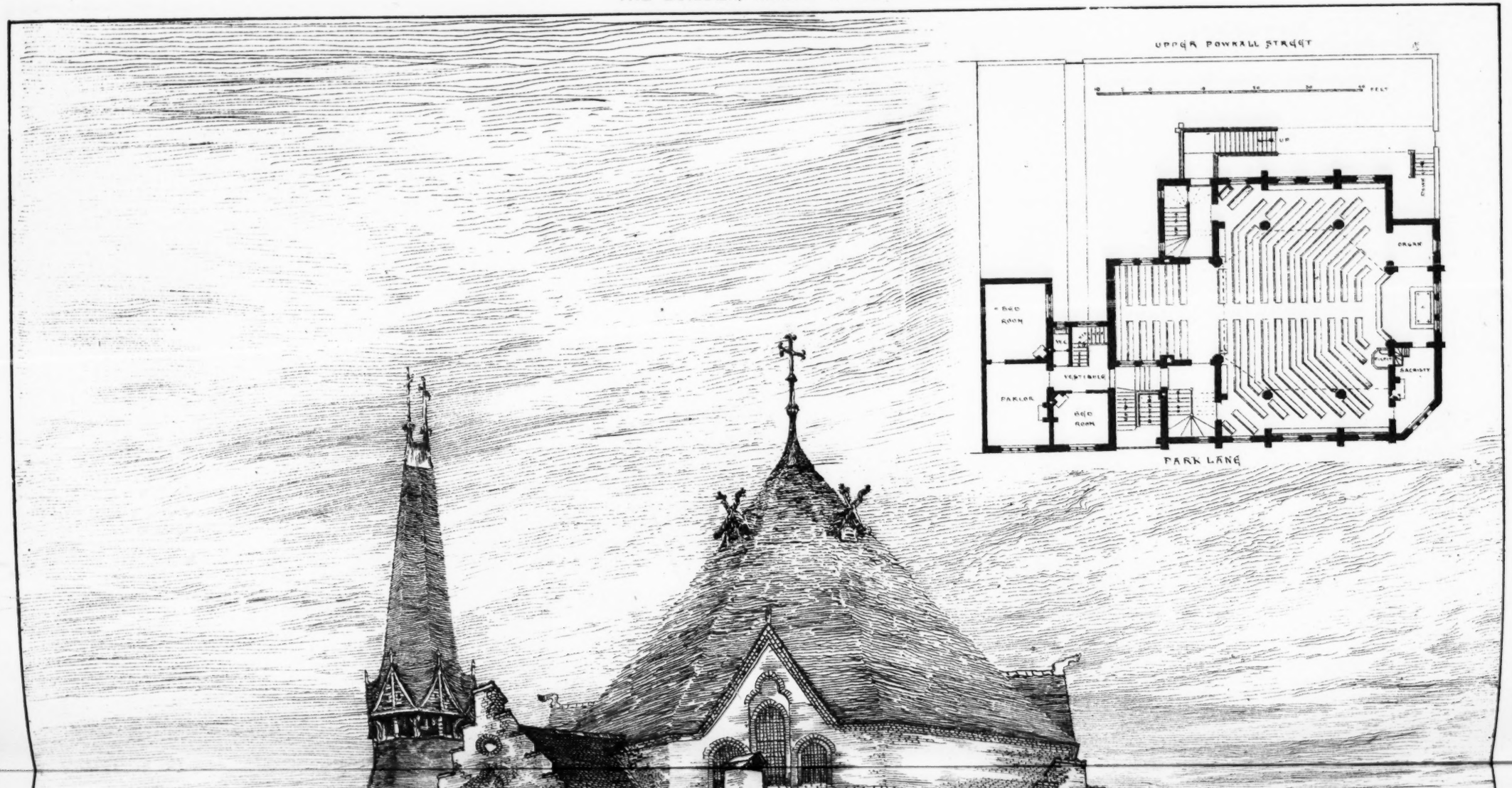


Front Elevation.

Side Elevation.

Whiteman & Bass, *Photo-Litho* 236, High Holborn.

Wyman & Sons, Printers, Gt Queen St.


UPPER POWNALL STREET
BED ROOM
VESTIBULE
PARLOR
BED ROOM
ORGAN
VESTRY
PARK LANE

GUSTAF·ADOLF'S·KYRKA·
LIVERPOOL · W.D. CARÖE, M.A. Architect
LONDON.

New·Scandinavian·Church·
Liverpool·Corner·of Cornhill and Park Lane

C. F. Kell, Photo-Lith. & Printer

5 Castle St Holborn, London E.C.

INGLE-NOOK, DRAWING-ROOM OF HOUSE, ENGLEFIELD GREEN.——Mr. Robert W. Edis, F.S.A., Architect.

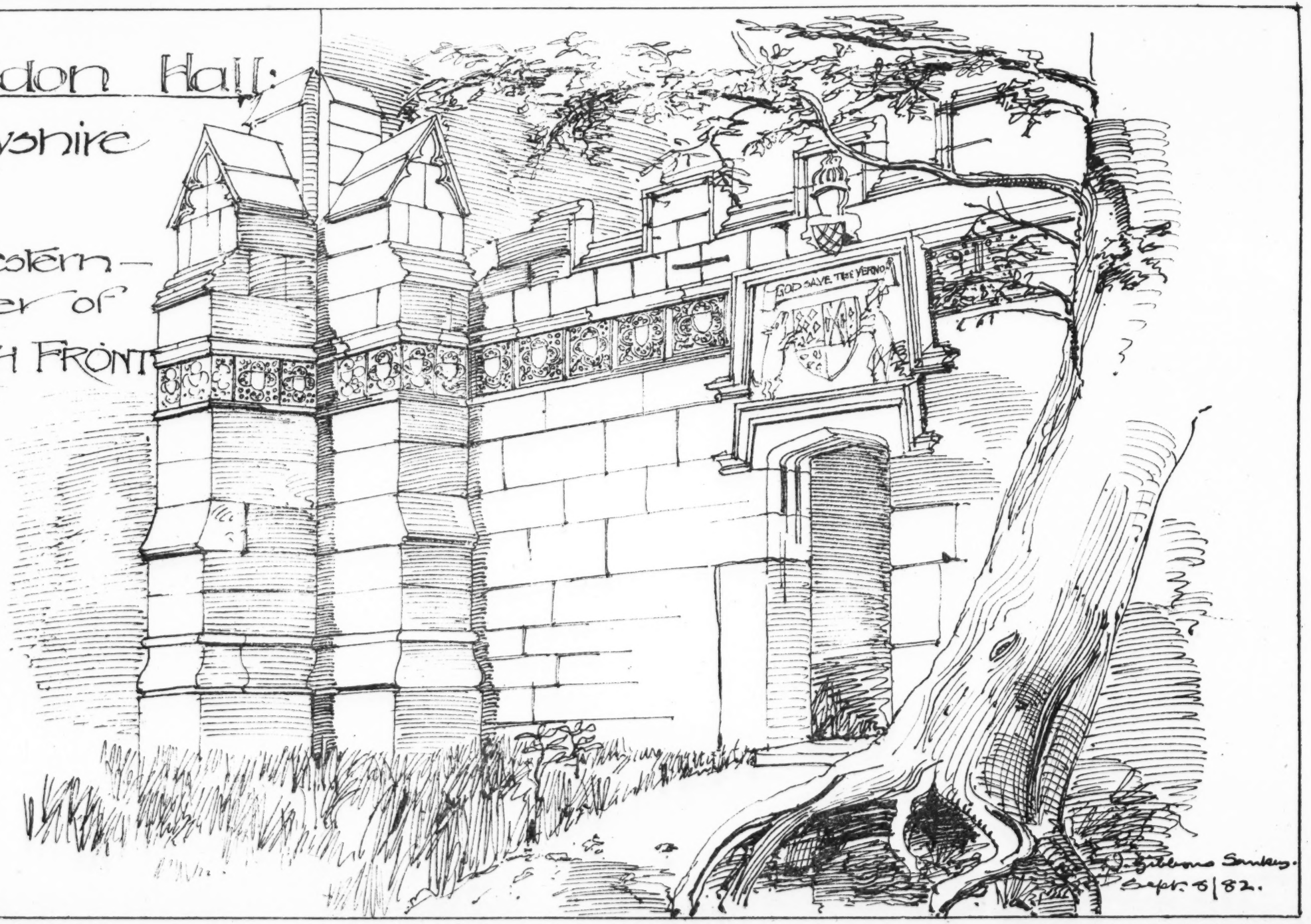
C.F.Kell, Photo-Litho. Wyman & Sons, Printers.

INTERIOR OF HALL OF HOUSE, ENGLEFIELD GREEN.——Mr. Robert W. Edis, F.S.A., Architect.

R.I.B.A.—*Pugin Travelling Studentship*, 1884.

Haddon Hall: Derbyshire

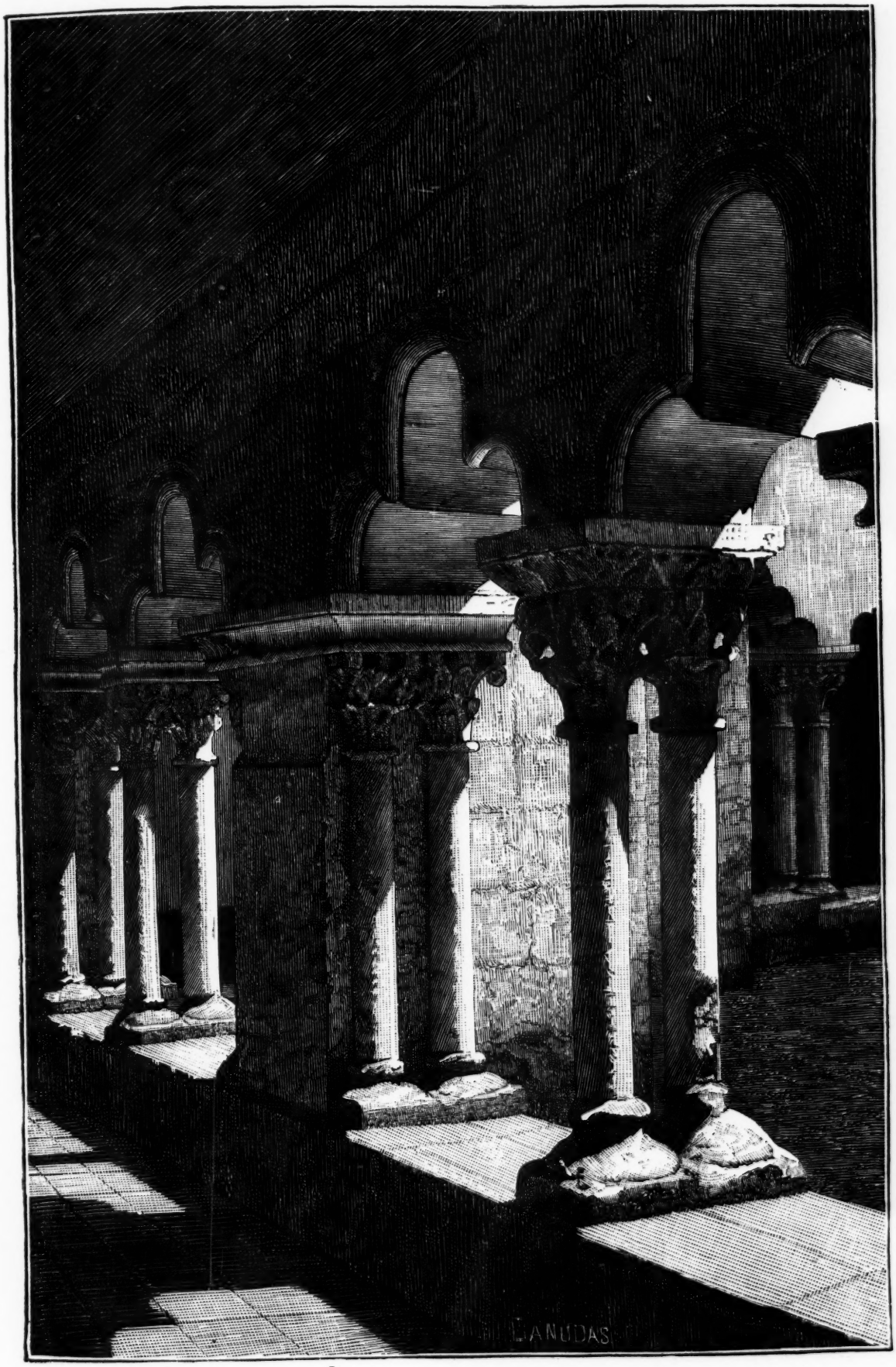
The Western Corner of North Front



C. F. Kell Photo-Lith & Printer. 8.

Castle St. Holborn. London. E.C.

R.I.B.A.—*Pugin Travelling Studentship*, 1884.



CLOISTERS OF ST. PAU DEL CAMP, BARCELONA.

CLOISTERS OF ST. PAU DEL CAMP, BARCELONA.

THESE cloisters form a very picturesque bit of work, interesting also in an historical sense, as displaying a mingling of Romanesque with Gothic feeling and style. The monastery dates a long way back; its first installation, as far as is known, having been in 914, the buildings then erected having been destroyed in the invasion of Almansor in 986. In 1117 the church was rebuilt. The cloisters here shown are of somewhat later date, though the capitals, and more especially the abacus, retain details characteristic of Romanesque work; the foliage carving is just developing into Gothic. The heavy arches springing from these quasi-Romanesque piers are trefoiled, but through the foreground arch a glimpse is caught of a cinque-foil arch on the other face of the cloister arcade.

M. Benjamin Ulmann, the painter, died two or three days ago, at the age of 54. Like Henner, his competitor for the Prix de Rome, he was an Alsatian.

ROYAL ACADEMY DRAWINGS.

THE time for the annual collection of such drawings as the Royal Academy elect to hang in their architectural room is now approaching, the day for sending in drawings being, we believe, the 31st of this month. We shall be glad to receive before that time any drawings of a high class, or representing new buildings of importance, which their authors may wish to have illustrated in our pages during the continuance of the exhibition.

In the case of architects residing in the provinces, such drawings, if forwarded to our publishing office for the purpose of being photographed, will be duly delivered thence at the Royal Academy on the day of receiving, without further trouble to the author of the drawing.

MEDDLESOME CLIENTS.

THOSE who attempt to pass judgment upon a professional architect's work from an external stand-point are often in total ignorance of the unseen influences which have restricted him in giving expression to his ideas. Apart from enforced compliance with legal regulations, with the limits imposed by pecuniary considerations, or with conditions dictated by practical convenience, an architect is frequently obliged to sanction the whims and oddities of those who have not sufficient common sense to leave matters which they only half understand to the direction of their professional advisers.

It may seem presumptuous or out of place to censure those who might be supposed to have the best right to dictate in what manner their own money should be employed; but when that right is exercised, not only to the discredit of architects, but to the detriment of the interests of clients themselves, our protest will not be thought unreasonable. If persons having the command of capital were at times less dictatorial we should hear fewer complaints about the unsatisfactory state of modern architecture. Either in planning, in structural arrangement, or in external effect, a good design has often been marred through the short-sighted obstinacy of a meddlesome client.

How often is an architect, on inquiring with some asperity of the builder's representative why certain portions of the work have not been executed in accordance with his wishes, met by the reply that Mr. —— has been down during the week, and reversed all his instructions? We could quote instances at length, but this is undesirable, and our readers could probably supply many from their own experience.

Those who make it their practice to decry modern architects and their works, upholding the handicraftsmen of the Middle Ages as patterns to be followed now, would do well to remember that the times are changed. In the Middle Ages, for the most part, the patrons of architecture, whose ideas found expression in stone, were men of taste and refinement. Often themselves loving students of the art, they were, in contrast to modern amateurs, careless of personal notoriety,—neither did they regard building in the light of a commercial speculation. They were content to devote their energies and resources simply to the production of noble works, and in this end they sought and found their sole reward. But now we have to cater for a large class of men who have expended the best part of their lives in the acquisition of money, who look upon the front elevation of a building as a species of advertisement hoarding, and upon all the devices of the artist as so many useful expedients for puffing their own wealth and importance.

Blunders and incongruities in architecture are, perhaps, more serious than those committed in any other art, because their effects are more enduring. Architects have, of course, to bear all the blame; but the architect, like the painter or the novelist, reflects in his work the tendencies of the age. In the future, the remedy for the present unsatisfactory state of things is, perhaps, to be sought in an increased interest on the part of the public, through education, in matters of art. In the meantime, let the client interfere less with his architect; let him pay the same deference to his professional opinion as he now pays to that of his medical or legal adviser, and then, perhaps, the architect may hope to vie with the wealthy and conceited amateur, who can afford to be his own client.

COLOURED GLASS.*

IN my last lecture I treated of marble as being the most perfect of all opaque materials, because we can not only get refinement, lustre, and a wide range of colour, but we can construct with it, as the Romans and Italians did when they wanted strength as well as colour and polish.

We can scarcely call glass the most perfect transparent material, as it is but the imitation of a gem, though in point of translucent colour glass is probably equal to any gem.

I do not know that glass has ever been used structurally, though it might be. Nero built a temple of diaphanous marble, and we read of palaces built of gems in the "Arabian Nights."

It is, however, absurd to compare marble with coloured glass; for, though in the former you get lustre and dignified colour, in the latter you *can* get their apotheosis,—effects that outrival the rainbow and vie with the flame, that plunge you into ecstacies and ineffable bliss; effects so lovely and marvellous, that for a time they banish the thought that they can be the results of man's imperfect endeavours.

The Mediæval founders,—who evidently felt the rapture of colour, and knew the fascination it had for the multitude,—made their churches and cathedrals mere picture-galleries to display this heavenly light.

Unfortunately for us, we mostly see these galleries without their pictures.

Although coloured glass is not architecture, I did not think it out of place to speak of it, as I not only hope you will hereafter have to build for it, but it has the making or marring of a building in its power; in fact, I may say more, if the coloured glass is of the finest quality, it will, like charity, cover a multitude of sins.

I propose to give you a short account of what is known of the origin and history of glass, a substance that has added so much to our comfort, refinement, pleasure, and delight, to offer you my opinion on the merits of the different styles of coloured, stained, and enamelled glass, to drop some hints on its proper employment in buildings, and to say something about its future prospects.

How glass was discovered is hidden in prehistoric darkness, for the chemist tells us that we may dismiss as fabulous Pliny's well-worn story of how it was first made in the open air; but as tradition has so hallowed the story that no treatise on glass is without it, I will repeat it. Some merchants had moored their vessels on the seashore, by the mouth of the River Belus, and supported their cooking-pots with some of the blocks of cubic nitre with which their vessels were laden; the fires melted the sand and soda, and glass was the result.

A more probable account is given by Josephus, who tells us that the art of making glass was discovered by some Jews, who set fire to a wood on a mountain, that the heat melted the sand and caused it to run down the mountain. We have all heard of lumps of dark glass being found amongst the ashes of burned haystacks, and in large fires I have seen the face of brickwork fused, so that dark green tears had run down it. After the burning of the Armoury at the Tower, the gun-flints were found partially fused into masses, and covered with a green glass-like glaze. As it would have been too expensive to burn down a forest every time glass was wanted, we may rather suppose that the constituents and qualities of glass became known in the prehistoric furnaces where metals were smelted and new fluxes tried.

Glass was not only known to the ancient Egyptians, but they became most skilful workers in it, and have left most beautiful objects in party-coloured glass. They left representations of glass bottles with wine in them 2,000 years before our era. The Greeks knew glass; they could scarcely fail to do so when they had such intercourse with Egypt, although it is not mentioned in Homer.

Herodotus, who died about 408 B.C., speaks of the columns he saw in the Temple of Hercules at Tyre, each of which was cut out of a single emerald, and at night threw out a marvellous light. They were probably of hollow green glass into which the priests had put lamps. We know that the Santo Catino, or holy grail, now at Genoa (an engraved plate of green glass), was, for many centuries, believed to be an emerald.

Glass cups are spoken of in the "Acharnians:" "We drink against our wills from cups of glass and golden chalices"; and the "burning glass" is mentioned in "The Clouds." Aristophanes died B.C. 380. Glass was also known to the Assyrians, and probably to the Chinese, for Pliny's description of the glass of India made out of broken crystal corresponds to a Chinese method of making glass, and they imported it into India for enamels.

In our version of the Old Testament, glass is not mentioned; but Michaelis, writing in 1754, says the word "crystal" in Job xxviii. 17, is "Zechucketh," which all learned Rabbis before Christ translated as glass. The date of Job is said to be 1520 B.C.

It is needless to say that the Romans used glass, for, to every boy who has learned Latin, "O Fons Bandusiæ, splendidior vitro"* is familiar. Horace died in the year 8 B.C., aged 58, and Vitruvius, who was born about 80 B.C., speaks of glass, called ὕαλος by the Greeks. About the date of our era glass mosaic was used to decorate vaults, ceilings, and other portions of buildings at Rome and in the Roman Empire.

Pliny tells us that Sulla's son-in-law, M. Scaurus, "During his ædileship, and only for the temporary purposes of a few days, executed the greatest work that has ever been made by the hands of man, even when intended to be of everlasting duration; his theatre, I mean. This building consisted of three stories, supported upon 360 columns. . . . The ground-story was of marble; *the second of glass*, a species of luxury which ever since that time has been quite unheard of, and the highest of gilded wood" (Lib. xxxvi., cap. 24).

It is curious that Pliny gives us no hint of how this glass was used, whether structurally, as windows, or as wall ornaments; but it is believed that slabs of opaque glass were used in this theatre as wall linings. At any rate, opaque glass slabs came into vogue for that purpose later, and were even used as paving in the shape of tiles and amongst marble mosaic.

He also says:—"There is an artificial obsian stone [obsidian], made of coloured glass for services for the table; and there is also a glass that is red all through, and opaque, known as 'hæmatinum.' A dead white glass, too, is made, as also other kinds, in imitation of murrhine colour, hyacinthine, sapphire, and every other tint: indeed, there is no material of a more pliable nature than this, or better suited for colouring." (Lib. xxxvi., cap. 67).

That the Romans brought to it such perfection need hardly surprise us when we know that in the time of Nero 50,000*l.* was paid for a pair of cups.

As far as I can find out, no one has as yet been sufficiently interested in coloured glass windows to dig out the accounts of their first introduction from the writers of antiquity or of the Dark Ages. We learn from Pliny that almost any colour could be given to glass, and, in his description of gems, he says, speaking of the opal, that "There is no stone that is imitated by fraudulent dealers with more exactness than this, in glass." [Lib. xxxvii., cap. 22.] If the Romans set their gems transparently in rings this might have suggested stained glass or the casual holding up of pieces of coloured glass for mosaic on any perforated material.

Pliny uses a strong argument to prove that glass mosaic was not known in B.C. 27, when Agrippa built the Pantheon, and either glass must have taken a rapid stride between that time and Pliny's death in A.D. 79, or else glass mosaic must have been introduced from some country where this mode of decoration was practised, for we find glass mosaic used in fountains at Pompeii.

Mr. Nisbett, quoting from the Chronicles of the Singhalese Kings, about B.C. 386, says, "Windows, with ornaments like jewels, which were as bright as eyes." This may mean stained-glass windows, but it may not.

We know from Pliny that talc and various sorts of translucent substances were used for windows, and traces of talc have been found in the rabbets of the windows at Sta. Prassede, at Rome. I give you Martial's epigram on the subject of windows and conservatories:—

> "Your oranges and myrtles, with what cost,
> You guard against the nipping winds and frost!
> The absent sun the constant stoves repair:
> Windows admit his beams without the air.

* From a lecture by Mr. G. Aitchison, A.R.A., delivered at the Royal Academy on Monday, the 25th ult.

* Oh, Bandusian Fountain! more brilliant than glass.

My garret, too, hath windows, but not glasses,
Where Boreas never stays, but often passes.
For shame! to let an old acquaintance freeze!
I had much better live amongst your trees."
Lib. viii., e. 14 (HAY).

But we have ocular proof that uncoloured glass was used in Pliny's time for windows: the pane of glass found in a bronze frame in the house of the Faun at Pompeii; the large square in the bath, 3 ft. 8 in. by 2 ft. 8 in.; a window described by Sir W. Gell as containing four panes divided by cruciform bars of copper, fastened with nuts and screws to remove the glass; and in a Roman two-storied villa on the Herculaneum road a large glazed bow-window was found. The glass was very thick and greenish, and *set in lead like a modern casement.*

Prudentius, 337 A.D., says of St. Paul beyond the walls of Rome:—"In the windows are displayed glass of varied colours as brilliant as the fields of flowers in spring."

And in 398 St. Chrysostom praises the high glass windows of various colours. It is believed that Justinian, who built St. Sophia in 532 A.D., ornamented it with coloured windows of cast glass.

I am loth to quote from the "Arabian Nights," because it is supposed to have taken its present form in the sixteenth century, though some of its stories are as old as Homer; but in the City of Brass, a story supposed to be of the time of the Caliph Abd-El-Melik, the son of Marwán, who reigned from A.D. 685 to 705, there is this passage, which may refer to glass:—"Around which were lattice-windows, decorated and adorned with oblong emeralds, such as none of the kings could procure" (Lane's Translation of "1,001 Nights," vol. iii., p. 134).

Mr. Hendrie, the English translator of Theophilus, informs us that "Fortunatus of Poitiers in the sixth century praises the bishops who ornamented their churches with stained-glass windows;* and Eracius, of the eighth, ninth, or early part of the tenth century, gives directions for making coloured glass; there is also a MS. given by Muratori, and said to be of the eighth century, where directions are given for making it. Theophilus, of the eleventh century, or, as Viollet-le-Duc thinks, of the twelfth century, in his essay "Upon Various Arts," gives directions for making and painting coloured glass, and was evidently well versed in the art of enamelling it. Unfortunately his recipes for coloured glass have been lost, although from the index to his MSS. he must have given them. Yellow and purple glass he speaks of, but only as found accidentally when white glass was being made; but he speaks of blue, white, red, green, and all kinds of colours, and gives the receipt for making gold mosaic; he also tells us that the opaque glass of the Pagan mosaics was used as gems, and says, "Divers small vases are also found, of the same colors, which the French, most intelligent in this work, collect, and some melt the sapphire in their furnaces, adding to it a little clear and white glass, and make costly plates of sapphire, very useful in windows." (Lib. 2, cap. 12.) In his recipe for white glass he tells us it was made with washed sand, and the ashes of dried beechwood.

In a MS. on the subject (Sloane Collection, No. 3,661), the following notice is found: "This book pertayneth to me John Elyot, which was written out of an old copye (xxx.) in Anno 1572: which copye seemeth to be above 200 years old." In it is given the recipes for making blue, violet, emerald, bolass-ruby, ruby, carbuncle, sapphire, hyacinth (reddish brown or blood red), topaz (yellow, saffron yellow, brownish yellow, and reddish pink), garnet, chrysolite (olive green), turquoise, and carnelian glass; the blue owes its colour to cobalt, the violet to manganese, the emerald to copper, bolass-ruby and ruby to copper and iron, to gold for the carbuncle, to lapis lazuli for sapphire, to gold and iron for hyacinth, to gold and lead for topaz, to gold and hematite for garnet, to zinc for chrysolite, to gold and lapis lazuli for turquoise, to tin, mercury, and golden marcasite (iron pyrites) for carnelian.

Coloured glass windows may be divided into two grand divisions, the eastern and the western; the eastern formed by the insertion of thin unshaded coloured glass in, or on to patterns cut in stone, marble, plaster, or wood; and the western where the glass is fitted into leaden frames and shaded, although I believe the clear glass roundels of the lower windows in Eastern houses are set in lead, both methods having been used in Rome.

In Oriental work the wide chamfered bars of plaster forming the pattern not only act as a dark separation confining the radiation to their own chamfers, but when seen at a proper angle the effect of shading is produced. One bright jewelled spot of the pure glass is seen, and the remainder of the colour is but the reflection on the chamfer. The ground is formed in this wise: the plaster is thinned and pierced with round holes, which are glazed with one colour, though often modified in tone and tint; from the small size of the holes the radiation would be more confined, yet the light reduces this large area of blank space to a fine network. Although I have never seen it done, I should think this mode of glazing might even be adapted to figures. Of course, in Mussulman countries figures are inadmissible. I believe no complete coloured glass window in the West is older than the twelfth century, though some of the tenth and eleventh centuries are spoken of.

It seems a contradiction to speak of grisaille windows under coloured glass, but in old glass the grisaille was not white, but of varied light tones, such as sea-green, pale blue, fawn, pink, pale brown, and such pale tints, and the glass was more like onyx, agate, or alabaster than like clear glass. The Cistercians eschewed colour, but tried to make amends for its absence by the choice of rich patterns in the lead-work. In many cases the early grisailles are almost equal in beauty to the finest coloured glass.

I once had a glimpse of the grisaille windows in the cathedral at Poitiers towards dusk, and the impression of the soft and varied loveliness of their pearly hues impressed me only a degree or two less than did the windows of Florence or Chartres.

When grisaille is made of pure white glass, even if it be ground, or rough and full of bubbles, nothing more vapid can be imagined, and the introduction of one such window amongst coloured ones utterly spoils their effect in a building.

Even when the glass was of the thickest and best quality, and was greatly varied in tint and tone, it was found advisable to insert coloured bands and jewels, so as to lead the eye to the coloured windows, and to prevent a sudden break of continuity, but there was a general inclination to mingle coloured subjects with jewelled grisaille, or to alternate it with them.

We hear from Theophilus that he had seen, admired, and tried to imitate the coloured glass windows of Sta. Sophia, and we may well believe, from what we know of the mosaics at St. Vitale, St. Apollinari, and the tomb of Galla Placidia, that these stained-glass windows were not less lovely in colour, and that the laws of harmony were as fully understood.

To whatever cause we may attribute it, the fact remains that the glass of the twelfth and early part of the thirteenth centuries is the most splendid that yet remains to us; the gorgeous colour indulged in by the Romans at Byzantium had no doubt its effect, for that was the centre from which all the arts had flowed. The Roman emperors found the mosaic for the mosque at Damascus as well as for the Kaabeh at Cordova, they found the architect for St. Mark's, and we hardly know when Byzantine influence was absolutely at an end before the final extinction of the Roman Empire in 1453, by Mahomet II.

The splendour, too, of the Court of the Caliphs must have had its influence on mankind, and doubtless the magnificent stuffs and tapestries made for it, found their way into Europe, even if it were only in the shape of presents. The account of the presentation of the Ambassador of Constantine IX. to the Caliph-el-Muktedir, A.D. 917, gives us some notion of the wealth and display then existing at Bagdad; and about this time Arab art and learning began to affect the West, though the forms in these twelfth and thirteenth century windows are still mainly Byzantine.

The glaziers' art was then, too, at its zenith, and it is also possible that at this time the colour sense was exceptionally developed.

We know that Theophilus was a monk, and he apparently wrote his treatise for another monk. If he lived in the twelfth century his being a monk may account for some of the excellence of the work, but whether the windows were done by monks or laymen, the same qualities would, and will produce, similar effects, when the natural gifts exist and grand opportunities for their exercise; I mean a strong desire for the perfection of the art (for the art's sake alone, apart from all selfish considerations), combined with acute observation, untiring industry, and patience.

The twelfth and thirteenth century windows were of the deepest and richest colours, the ground generally being of crimson and azure, and only rarely of emerald, the figures and objects in the pictures were paler in tone than the grounds, often strikingly original in their harmonies, and between the pictures there was a fully coloured diaper, and white was used as a jewel so precious, indeed, that the narrow strips were often painted to form strings of pearls.

In the aisles of churches patterned windows were generally adopted,—I mean by this a window formed into a pattern with the circles, oblongs, or cusped spaces filled in with figure-subjects,—and in the clearstories gigantic figures. If you stand in the round part of the Temple Church you will observe the beauty of the east windows, and particularly the marvellous effect of the main forms of the patterns; but it is in the nave of Chartres that we find patterned windows that exceed in magical beauty any other manifestation of colour that man's hand has achieved. Some notion of their beauty may be got from those at Canterbury. I was unfortunately unable to get some tracings of these done in time.

When we look at Titian's "Entombment," Bonifacio's "Finding of Moses," or some of the sketches of Schiavone or Paul Veronese, we think it impossible to find greater beauty of colour; but these masterpieces, as far as their colour goes, leave us comparatively emotionless when put in the scale with these windows of Chartres. We say what geniuses these men were; but when we look at the windows it seems as if some divinity had melted every lovely jewel and every tone of mother-o'-pearl, and poured out a cascade of coloured glory that flames, sparkles, and throbs, that raises us to ecstacies, and makes us thankful that the tempter of mankind is not there to offer us the power of making such for his usual fee, and we ask ourselves if they were really made by men and not sent down to us direct from heaven, to give us a taste of its delights. We have the apotheosis of colour, and though, on close inspection, we may find the composition ludicrous, and the drawing childish, though the saints have purple or green hair, we are no more disturbed by that, than a musical devotee when he hears the most exquisite song sung by a woman with the loveliest and most cultivated voice because she is singing nonsense in an unknown tongue.

After this apogee of the glazier's art two or three causes combined to drag it down; it is undoubtedly the case that this full and rich toned glass did produce, not merely "a dim religious light," but almost gloom, and this rich-coloured glass was probably very dear, the want of funds and of cheerfulness probably combining to urge the introduction of white glass.*

* An essay upon various arts, in three books, by Theophilus, called also Rugeius, priest and monk, forming an encyclopædia of Christian art of the eleventh century—translated, with notes, by Robert Hendrie, 1847.

* The remainder in our next.

ARCHITECTURAL ASSOCIATION.

VISIT TO THE ALBERT EXHIBITION PALACE, BATTERSEA.

THE third Saturday afternoon visit this session of the members of this Association took place on the 23rd ult. to the building now known as the Albert Exhibition Palace, Battersea Park.

The members were received by Mr. Moore (a member of the firm of Messrs. F. Braby & Co.) and Mr. Hand (chief superintendent of the firm), who explained the drawings and the chief features of the structure.

The history of this building dates back as far as June, 1862, when designs were advertised for the erection of the Dublin Exhibition Palace and Winter Garden to be erected in Dublin.† In reply to this advertisement twenty-four competitors sent in designs, and from these the drawings of Mr. A. G. Jones, architect, of Dublin, were selected. A description and illustration of this design appeared in the *Builder* of January 31st, 1863. The illustration represented the design as selected by the Committee, but it was greatly altered in execution to reduce the cost. The services of Messrs. Ordish & Le Feuvre, of London, were called in to assist in the construction of the building. This having

† See *Builder*, vol. xx., p. 499.

been completed, it was publicly opened by H.R.H. the Prince of Wales, May 9th, 1865. A very minute and detailed description of the roof and other ironwork construction appeared in our former contemporary, the *Civil Engineer and Architect's Journal*, for April, 1866, together with an excellent illustration of the section through the nave and side aisles, by J. Jobbins. This description is interesting now, the section of the building at Battersea being an exact reproduction of the one at Dublin, which, having served its purpose, and stood for eighteen years, it was last year resolved to take it down and re-erect it at Battersea. For this purpose a company was formed, called the Albert Exhibition Palace Company, Limited; and a contract was entered into with Messrs. F. Braby & Co., the zinc roofing manufacturers and contractors, of Fitzroy Works, Euston-road, to take the building down and re-erect it at Battersea Park. In taking the old building down great care had to be used,—every girder, column, purlin, and other piece had to be numbered,—and so carefully was the work performed that not a ton of ironwork was destroyed in taking down the structure preparatory to its transmission to London; but we are sorry to learn that a good deal of the ironwork was broken in transit, which caused great delay in getting the broken pieces recast sufficiently accurately to fit their proper places. These difficulties being ultimately overcome, and the various details of the ironwork deposited on the new site in a somewhat heterogeneous manner, it became a sort of gigantic Chinese puzzle to re-adjust them for erection. The site is a long strip of land just outside Battersea Park, and the work of taking down and re-erecting the structure has been performed by Messrs. Braby & Co., in the very short space of six months, under the superintendence of Mr. Hand (their representative) and Mr. Fuller, Clerk of Works. The necessary stone and brickwork to the structure has been executed by Messrs. Bywaters. The whole of the works have been executed or carried out under the direction of Mr. Bell, C.E. (of Messrs. Bell, Miller, & Bell).

The superficial area of the plan is the same as the former building at Dublin, but the shape is somewhat different, that at Dublin being in the form of a recumbent letter ⌐, whereas the one at Battersea is in the shape of a ⊢ square. This was done to suit the difference of sites. The present building may, therefore, be said to consist of nave and transept, it being contemplated to construct another corresponding nave on the left of the transept, so as to make the transept a central one if the building should turn out a success. The nave and aisles are 460 ft. long (divided into bays of 16 ft. 10½ in. each) by 84 ft. wide. The transept is of the same span, viz. 50 ft., but has a double row of aisles on either side, making its total width 120 ft., or the entire length of the building 580 ft. Its height up to the apex of roof is 60 ft. The transept, like the nave, is also divided by iron columns and lattice girders into bays of the same dimensions; the iron columns acting also as rainwater down-pipes. The roof is covered with Braby's Italian zinc roofing and tinted glass. The whole of the glass, tinted and otherwise, and glazing, are supplied and executed by Messrs. Bussell & Gibbs. We may here mention that Messrs. Braby's system of laying zincwork dispenses entirely with the use of solder, and provides for the expansion and contraction of the metal. Some specimens of the old zinc from Dublin used in 1865 were shown to be in almost as good state of preservation as when first used. Some models also of Messrs. Braby's system of roofing and glazing were exhibited to the members: absence of solder in the one and absence of putty in the other being the chief characteristics. In the glazing, for instance, the glass was simply bedded on the lengths of creosoted cord, and screwed down through rolls of No. 16 zinc.

An addition has been made to this building as an annexe, the full length of the nave (460 feet) being a substantial building of brickwork, faced on the outside with Portland stone; the roof supported by light ornamental iron principals. The ground-floor is to be divided into various offices. The first-floor to be used as a picture-gallery and dining-room. The contract for this portion of the work has been undertaken by Messrs. Bywaters, under the superintendence of Mr. Bell, C.E. It is intended to open this building to the public in May next.

NEW CEMETERY, WEST DERBY, LIVERPOOL.

A NEW cemetery for the parish of West Derby, Liverpool, has been recently opened. The land purchased by the Board consists of about 160 acres, of which, for the present, only 60 acres are laid out, the rest being meanwhile used for agricultural purposes. Mr. Wortley, of Liverpool, laid out the estate, apportioning 30 acres to the Church of England, 19 to the Roman Catholics, and 9 to the Nonconformists, a small portion of the 60 acres remaining unappropriated. The building and front boundary-wall were designed by and carried out under the superintendence of Mr. F. Bartram Payton, whose designs were chosen in a public competition. The portion of the ground which is now laid out has a frontage of about 1,700 ft., along which a new stone wall is built in bays, with ashlar piers, quoins, and coping, and ornamental iron railing. The other boundaries consist of plain iron fences. The entrance to the grounds is at the south-west corner, and consists of two pairs of carriage-gates, and two foot-gates, with five ashlar piers, the central and largest having pedestals for statuary standing in arcuated niches, and terminating with a spire and pinnacles. At the entrance is a drinking-fountain, with red granite basins.

The Registrar's house and offices form one group of buildings, and stand near the gates, the former containing two sitting-rooms, kitchen, scullery, six bedrooms, bath-room, &c., and the latter a large office, with fireproof room, waiting-room, Board-room (with open timber roof) on the first floor, muniment-room, &c. A tower, rising to a height of about 90 ft., marks the entrance to the offices, and has a clock with four dials and a bell; this tower also contains a cistern, whence all the buildings are supplied with water. On the other side of the entrance a lodge for the superintendent is in course of erection.

Of the three chapels, the central one is assigned to the Church of England, and has sitting accommodation for about 250 persons, the nave being 60 ft. by 28 ft., with mortuary aisles separated therefrom by handsome screens, glazed with plate glass; chancel, and tower and spire 110 ft. high. The Nonconformists' chapel seats about 200 persons, in a nave 60 ft. by 24 ft., with mortuary aisle, chancel, tower, and spire 97 ft. high. The Roman Catholic chapel accommodates an equal number, in a nave 51 ft. by 28 ft., and has an apsidal chancel and tower and spire of the same height as the Nonconformists' chapel. Each chapel has attached to it a waiting-room, with lavatory, &c.; a vestry for the clergy, with lavatory, &c.; an organ chamber; and a tool-house, with public conveniences. They are all heated with hot water on the high-pressure system, and are admirably finished inside with red pressed bricks, relieved with black and white bricks, tuck-pointed, and Bath stone dressings. The seats are of pitch pine. The external walls are faced with Bradford wallstones, and the external ashlar is all from the same district. The buildings have been described as a small epitome of the various phases of the Gothic style of architecture, in which the Episcopal chapel represents the Early English, the Nonconformists' chapel the Decorated, and the Roman Catholic chapel the Perpendicular periods. The total cost of the cemetery is estimated at 73,000*l.*, of which about 17,000*l.* will have been spent on the buildings.

Mr. Jon. Mattack, of Keighley, was the contractor, and executed the mason's and bricklayer's works; the joiner's work was sublet to Messrs. A. & J. A. Clapham, the plumber's work to Mr. C. Nelson, the slater's work to Mr. T. Nelson (all of Bradford), the plasterer's work to Messrs. Emmett (of Keighley), and the painter's work to Mr. E. W. Walker (of Idle); Messrs. Welsman, of Bradford, did the quarry glazing; Mr. Fell, of Liverpool, the internal pointing to brickwork; Messrs. Freeman & Collier, of Manchester, supplied the iron railings, gates, hinges, and lightning-conductors; Mr. W. E. Clark, of Liverpool, did the carving; Messrs. Potts & Sons, of Leeds, supplied the clock and bell; Mr. William Truswell, of Sheffield, made the heating apparatus; Messrs. Bennett Bros., of Liverpool, supplied the grates, ranges, &c.; and Messrs. Milner & Co. the fire and thief-proof doors to safes; Messrs. Kaye & Co., of Leeds, made and fixed the locks. Mr. David Evans acted as clerk of works.

GALVANISED IRON WATER PIPES.

DR. VON EHMANN, one of the principal technical authorities on the subject in Wurtemburg, has communicated to the *Deutsche Bauzeitung* various details as to the employment and preservation of galvanised wrought-iron pipes for the purpose of conveying water. For many years the use of these pipes has been general in Wurtemburg for conveying water from the cast-iron main pipes in the streets to the taps, &c., in private or public edifices. Before use the pipes are carefully tested for the suitable pressure of water, and also with a view to greater security for a still higher pressure (usually up to twelve or fifteen atmospheres). For branch pipes the use of any other metal is prohibited in most parts of Wurtemburg, so far as pipes of ½ inch to 1½ inch internal diameter are concerned. The regulations in force also define the thickness of the pipes, which should be fully one-sixth of an inch for one inch internal diameter. The galvanising is on both sides, and the pipes are not allowed to be used until the official tests as to the pressure of the water have been held.

The results of this system would seem to have been satisfactory as to the soundness of the pipes and their preservation. Thus it is recorded that after having been for several decades in use, pipes which were examined were found perfectly good and almost totally free from either internal or external incrustations. An exception, however, is made as to those situations in which the pipes have been exposed to influences of a character specially affecting their durability.

This would seem to be specially the case in large stables, chemical factories, &c., where solutions of nitric acid, ammonia, &c., would come into immediate contact with the pipes. In such cases it is thought advisable to use iron pipes (whether galvanised or not) as little as possible. The pipes of the description referred to by Dr. Ehmann are also said to have been objected to in various quarters, in the same manner as other kinds of pipes have been treated from time to time. The experience of their use is considered, however, to have refuted in a satisfactory manner any assertions of a prejudicial character.

"SOME NINETEENTH CENTURY ARCHITECTS."

THIS was the subject of a lecture delivered the rooms of the Leeds and Yorkshire Architectural Society on Monday evening last by Professor T. Roger Smith. Reference was first made to the three leading architects of twenty years ago, namely Cockerell, Pugin,—who did probably more than any other man to promote what had been termed the Gothic movement,—and Sir Charles Barry, who, said the lecturer, ought to be ranked as the formost architect at least in Great Britain, and, possibly, in Europe, of the present century. Some architects of less prominence who lived about the same time having been noticed, the lecturer referred to Owen Jones, whom the 1851 Exhibition made famous as a decorator, and who held for many years a prominent position in connexion with the artistic use of colour; Cuthbert Brodrick, well known in Leeds as the architect of the noble Town Hall; Edward Walters, who built the Free Trade Hall in Manchester; Thomson, of Glasgow, who devoted himself to adapting Greek architecture to modern purposes; and F. P. Cockerell, whose personal qualities, as well as his professional work, were referred to in high terms; and Edward M. Barry, a son of Sir Charles Barry, was the last of a series which included chiefly the architects who had practised Renaissance design. After alluding to the group of men who, by their antiquarian researches, extended and almost perfected the knowledge of the Mediæval architecture of Great Britain, the lecturer concluded by some account of the three most prominent architects of the Gothic revival,—Scott, Street, and Burges. Sir George Gilbert Scott was described as a man of immense application and perseverance, and as having the most intimate acquaintance with the architecture of England, down to the peculiarities of individual churches. His largeness of knowledge, his experience, and his great reputation, rendered him perhaps the fittest man to deal with the difficulties met with in restoring our cathedrals and abbey churches, a

very large proportion of which were put into his hands. These restorations were Scott's most important work, but a large number of new buildings, secular and ecclesiastical, were erected from his designs. A sketch of Scott's lectures at the Royal Academy, his competitive drawings for the law courts, and a few of his more prominent works, followed, which was closed by a reference to the great literary merits of his volumes of lectures and his Memorials of Westminster Abbey. George Edmund Street owed his early opportunities to the friendship of Bishop Wilberforce, but he became well-known both by his buildings and the wonderful pen-and-ink drawings from his own hand which he exhibited year after year at the Royal Academy. His smaller churches and his plain buildings, where only very little ornament was possible, were pointed out as possessing peculiar excellence. He was a man of great energy and self-reliance, and used to outline in pencil all the drawings for every building he superintended. Turning to the new Law Courts in connexion with which Street's name was best known, the Professor declined to attempt to pass a critical opinion upon the building, but pointed out in relation to it that the Commission, not the architect, was largely responsible for the general scheme; and that the building had been crowded on too small a site, circumstances to which the greater part of the complaints of inconvenience sometimes made were traceable. He pointed out the dignity of the unrivalled vaulted hall, the like of which does not exist in Europe, and the beauty and variety of the architectural features throughout the building, directing special attention to the great *flèche* over the roof of the main hall, and to the variety and beauty of the vaulting. The lecturer described William Burges as one of the greatest artists and best antiquaries whom the Gothic revival produced. He knew probably as much of Mediæval archæology as any Englishman of his day, and acquired a thorough familiarity with every art or appliance that could contribute to the excellence of a building. Burges's success in the international competition for a cathedral at Lille, in France, and his principal works of architecture and decoration, were referred to. In conclusion, Professor Smith said he hoped the memory of such examples would help to make his hearers proud of the profession to which many of them belonged.

DISCOVERY OF CLASSICAL REMAINS AT NISMES.

WE learn that at a recent meeting of the Historical and Archæological Society of Geneva, Mons. C. Dardier, of Nismes, gave a description of a handsome mosaic discovered in the latter city at a depth of 1·80 mètres, in the course of the excavations necessery to form the new streets near the Central Hall. The discovery was made on the 20th of December last.

The dimensions of the mosaic are 8 mètres 89 centimètres, by 5 mètres 93 centimètres. The central portion, which is in bright colours, resembles a bas-relief design discovered in Rome in 1861, and engraved afterwards in the "Dictionary of Antiquities" by Messrs. Daremberg and Saglio, in the article "Admetus." The subject is the marriage of Admetus and Alcestis.

According to the old legend, Pelias, king of Iolcos, had resolved not to give his daughter in marriage to any one who did not apply for her in a chariot drawn by two ferocious wild beasts of different species. One of the suitors, Admetus, king of Pheræ, was enabled to comply with this condition, thanks to Apollo, who had been in his service when he was driven out of Olympus for the murder of the Cyclops. The god, remembering that he had been treated with kindness by his master, took a lion and a wild boar, and constrained them to submit to the will of Admetus. The latter attached them to his chariot, and with this singular equipage appeared before Pelias, who, true to his word, gave him his daughter. This story is recorded in the fables of Hyginus, and in the Mythology of the African Bishop, Fulgentius. The latter, in his comments upon the legend, says that the lion represents the force of the soul, and the boar the power of the body.

The ancient Nismes artist appreciably modified the legend, perhaps because he did not altogether understand it. In the Roman bas-relief, which closely follows the Grecian story which inspired the sculptor, Apollo stands behind the boar and the lion, exerting over them a calming influence; and by the side of Apollo is the figure of Diana. The artist, instead of the god and goddess, has inserted two of the officers of Admetus; one of them has a small shield and a Grecian helmet. Moreover, instead of clothing the young princess, as in the Grecian representation which was probably under his eyes, the artist has given her but scanty array, and placed her in the centre of the design. The work appears to be of about the second century after Christ. The mosaic was evidently designed by a master-hand, and the general effect is powerful.

The borders of the tableau comprise a series of six compartments, separated one from another by a Grecian design. At the top of the tableau is foliage with stems of acanthus, in the openings of which the artist has placed several figures of animals,—a tiger tearing an antelope; a leopard, of which the skin is sadly stained, defending itself against the attacks of a serpent; a lion, with mane erect, digging his claws into the skin of a dead stag; a dog pursuing a hare; vultures, a jay, a parrot, lizards, a snail, and small birds in flight and at rest. This border has a fine decorative effect, and pleases amateurs better than the central design. The mosaic will be removed, and put together again in a Monumental Museum about to be established in the city.

M. Dardier also brought under the notice of the society the circumstance that some valuable antiquities have been discovered in a grotto near Vallon, by workmen engaged by the Nismes Company for the sale of the phosphates of the Cévennes. The treasure consists of 286 objects contained in a sun-baked vase of black earth; they consist of ancient earrings, bracelets, rings, small pearls, a pierced bear's tooth, buttons, and other trinkets.

DISTRICT SURVEYORS' ASSOCIATION.

THE members of the District Surveyors' Association have recently been very active in amending their constitution and adapting it to modern requirements. The principal alterations are the increase of the members of the committee to eighteen, the appointment of a president and vice-president, and the arrangement that at least one-third of the committee are to sit once a month to consider all questions. The old rota system is abolished. We append the names of the officers elected under the new by-laws on Friday, the 22nd ult.:—

President.—Edmund Woodthorpe.
Vice-President.—Henry Parsons.
Hon. Treasurer.—C. Fowler.
Hon. Secretary.—B. Tabberer.
Committee.—A. Bovill, E. Carritt, J. Clarkson, H. H. Collins, Banister Fletcher, J. H. Hansom, C. F. Hayward, T. E. Knightley, G. Lansdown, S. S. Markham, J. D. Mathews, H. Oliver, Professor Smith, R. Walker, F. Wallen, T. H. Watson, J. A. J. Woodward, and A. Williams.

BUILDERS' CLERKS' BENEVOLENT INSTITUTION.

THE seventeenth annual meeting of this Institution was held on Tuesday evening last at the Offices, 27, Farringdon-street, Mr. Joseph Randall (of the firm of Kirk & Randall), president-elect, in the chair, supported by Mr. J. Howard Colls, the retiring president, Messrs. Thomas Stirling, Thomas Bishop, E. Graystone, E. C. Roe, B. C. Fox, E. Brooks, J. A. Robson, E. W. Holland, G. Bugg, T. H. Winny, and others.

The report and balance-sheet for the year ending December 31st last were read by the Secretary, Mr. H. J. Wheatley. The report congratulated the donors and subscribers on the fact that the past year has proved the most prosperous of any since the establishment of the Institution in 1866. The amount received as income consisted of 263*l.* 10s. in annual subscriptions, 331*l.* 13s. 6d. in donations, and 55*l.* 13s. 1d. in dividends on stock, making a total of 650*l.* 16s. 7d., showing an increase of 147*l.* 17s. 8d. over the receipts for the preceding year. The amount paid in pensions and temporary relief was 238*l.* 3s., the largest sum as yet expended under that head, the working expenses being 71*l.* 5s. 6d., exclusive of 14*l.* odd spent in connexion with a special appeal to the clerks. The number of pensioners now on the Relief Fund was twelve, there being also two children who were receiving maintenance and education in connexion with the Orphan Fund. The liberal response made to the retiring President's appeal at the last annual dinner had enabled the committee to further strengthen the foundations of the Institution by investing 300*l.* in New Three per Cents., and 100*l.* in India Four per Cents. The committee referred with very great regret to the loss the Institution had sustained by the death of its late treasurer, Mr. Henry Thomas Bayes, who not only assisted in founding the Institution, but was always zealous in promoting its welfare. Mr. Edwin Brooks, who had been a very active member of the committee from the first, had accepted the post of treasurer. In conclusion, the report tendered the thanks of the committee to the retiring president for his services to the Institution during the past year,—services which had contributed to the marked success of the past year's proceedings of the charity.

The Chairman, in moving the adoption of the report and balance-sheet, expressed his determination to do all he could during his year of office to still further enhance the success of the Institution. He thought that the number of annual subscribers was hardly what might be expected from so important a body as the builders' clerks.

Mr. Thomas Stirling seconded the motion, referring in terms of regret to the death of Mr. Bayes, who had, however, been well succeeded by Mr. Brooks in the office of treasurer.

The motion having been carried unanimously, the office-bearers for the following year were elected, viz.:—President, Mr. Joseph Randall. Vice-president, Mr. J. H. Colls. In-coming Members of Committee:—Messrs. J. A. Allbright, R. Ball, F. T. Mullett, W. A. Rhodes, W. Seymour, R. J. Ward, and Walter D. Gilbert. Auditors:—Messrs. S. J. Thacker, Thomas Stirling, and Thos. Bishop. Secretary:—H. J. Wheatley.

On the motion of Mr. Bishop, seconded by Mr. E. C. Roe, the hearty thanks of the Institution were given to Mr. Colls for his services as president during the past year, and Mr. Colls briefly replied.

After the discussion of some other business, the meeting terminated.

BUILDING PATENT RECORD.*

APPLICATIONS FOR LETTERS PATENT.

Feb. 8, 1884.

2,950. W. Fawcett, Burton Salmon, and H. M. Ashley, Knottingley. Fire-places.
2,959. H. Scott, Liverpool. Grates.

Feb. 9, 1884.

3,006. G. Deacon, Northampton. Glazing roofs, &c.
3,017. J. Norris, Birmingham. Ornamental building slabs.
3,036. T. Anwyl, London. Chimney-pot.

Feb. 11, 1884.

3,052. J. Newton, Langport. Flushing water-closets.
3,057. J. Adams, Liverpool. Balancing apparatus for window-sashes.
3,061. R. C. Christian, Dublin. Securing stair-rods.
3,094. H. H. Lake, London. Apparatus for opening and closing doors, &c. (Com. by L. C. Norton, Boston, U.S.A.)
3,108. J. A. Hopkinson, and J. Hopkinson, Huddersfield. Hot-water apparatus.

Feb. 12, 1884.

3,123. W. T. Allen, Aston. Iron plates in place of brick jambs for fixing grates and chimney-pieces.
3,133. J. Jackson, Newcastle-under-Lyne. Circulation of water for heating purposes.
3,147. G. Dyer, London. Fire-grates.
3,148. G. Waller, London. Ventilating covers for sewers.
3,151. G. F. Sanders, Birmingham. Flushing water-closets.

Feb. 13, 1884.

3,214. F. W. Hagen, Hull. Waste and soil-pipes.
3,220. J. Friend, Exeter. Flush-pan closet.
3,243. W. Vincent, Reading. Preventing roofing tiles being blown off roofs, &c.
3,247. J. Lewtas, Stretford. Venetian and roller-blind action.

Feb. 14, 1884.

3,254. W. R. Lester, Glasgow. Astragals or glazing bars.
3,265. W. J. Young, Greenock. Closets or privies.
3,274. S. H. Adams, York. Water-closets.

Feb. 15, 1884.

3,326. T. Caink, London. Automatic flushing of sewers and drains.
3,329. G. Kay, Killbarchan. Fixing roof rain-water gutters.

* Compiled by Hart & Co., Patent Agents, 186, Fleet-street.

3,346. J. Partridge, London. Bearings of roller blinds.
3,347. T. S. Truss, Chiswick. Stench-traps.
3,349. J. & A. Law, Glasgow. Fixing rain-water pipes.
3,354. T. Welton, London. Portable water-closets.
3,363. J. Elliott and T. F. Parsons, Hastings. Artificial stone, &c.

Feb. 16, 1884.

3,389. H. Wyatt, Red Hill. Window-blind pulley-racks.
3,412. J. Booth, Bolton. Clip for glazing purposes.

Feb. 18, 1884.

3,457. J. Fraser, Arbroath. Astragals or glazing bars.
3,494. T. G. Pim, London. Soot-eradicating and sanitary glass facing.
3,521. C. Schlickeysen, Berlin. Roofing-tiles.

Feb. 19, 1884.

3,546. J. Deeley, Birmingham. Automatic flushing apparatus and water-waste preventer.
3,559. A. Waters, Croydon. Cistern float valves.

Feb. 20, 1884.

3,640. E. Surr, London. Relief decorations for walls, &c.

Feb. 21, 1884.

3,691. W. Rocke, Manchester. Open fire places or grates, &c.
3,698. A. Browne, London. Rubber coverings for stairs, &c. (Com. by W. D. Hutchinson, Mannheim, Germany.)
3,725. G. Crapper, London. Ventilation of house-drains, &c.
3,732. J. S. Starnes, London. Hydro-pneumatic valve for discharging cisterns, &c.

SPECIFICATIONS ACCEPTED,

and open to public inspection for two months from the date named :—

Feb. 12, 1884.

1,061. J. Fagan Shipton. Water-closets.

Feb. 19, 1884.

1,412. L. Roth, Wetzlar. Manufacture of cement.

Feb. 22, 1884.

837. J. G. Strong, R. G. Strong, and J. H. Strong, Dublin. Cast-iron water-closets.
1,294. C. R. Cowie, Glasgow. Artificial stone.

NOTICES TO PROCEED

have been given by the following applicants on the dates named :—

Feb. 12, 1884.

4,773. E. Robins, London. Manufacture of cements, concrete, &c. Oct. 8, 1883.

Feb. 15, 1884.

4,868. W. Smeaton, London. Water-waste preventers. Oct. 12, 1883.
5,971. W. Brindle and T. Brindle, Upholland. Dressing stone, concrete, &c. Dec. 31, 1883.

Feb. 19, 1884.

4,927. J. S. Gabriel, London. Paving streets, &c. Oct. 16, 1883.
4,954. W. Spence, London. Application of chemical agents to stones, &c., to diminish their porosity. (Com. by MM. Faure & Kessler, Clermont-Ferrand, France.) Oct. 17, 1883.
5,097. G. Asher, Balsall Heath. Ash-pans for fireplaces and stoves. Oct. 26, 1883.
5,899. D. Clarke, Birmingham, and P. Shrapnel, London. Application of tiles, tesselated, encaustic, &c. Dec. 28, 1883.
5,949. F. Walton, Twickenham. Wall decorations, &c. Dec. 31, 1883.

Feb. 22, 1884.

4,978. F. Wirth, Frankfort. Curtain-holders. (Com. by J. Wass, Karlsruhe, Germany.) Oct. 18, 1883.
4,979. E. French, Birmingham. Castors for furniture. Oct. 19, 1883.

ABRIDGMENTS OF SPECIFICATIONS,

Published during the week ending February 16, 1884.

2,924. A. R. Leask and E. Torrini, London. Compound or material as a substance for stones, marble, &c. June 12, 1883. Price 2d.

This is made of bone dust, asbestos, farina, albumen, coal dust, horn shavings, and powdered slate. (*Pro. Pro.*)

3,064. J. D. Sprague, London. Latches, bolts, or fastenings for doors, windows, &c. June 20, 1883. Price 6d.

In a rectangular shell is pivoted a tumbler so weighted that when the window or door is closed the tumbler impinges on a slotted plate in the frame, and enters the same. It can be released therefrom by the pressure of the finger-nail in an indent.

3,081. J. Noyes, Pollockshields. Ventilating sewer trap. June 21, 1883. Price 2d.

The part that contains the ventilators and the coupling with the pipes is made separate from the cesspool. (*Pro. Pro.*)

3,181. C. W. H. Brock, Bishop's Waltham. Holding and adjusting roller blind cords. June 26, 1883. Price 2d.

On a horizontal rod is an eccentric disc counter weighted which can jam the cord. (*Pro. Pro.*)

3,225. E. Raitt, London. Water-waste preventers. June 29, 1883. Price 6d.

An oscillating vessel of a semicircular section is supported horizontally in a cistern of a quadrantal section on the water supply pipe at one end and on the overflow pipe at the other end. The water is admitted to the vessel by a ball valve inside the same, through a passage in a casting which surrounds the horizontal supply pipe, and which, being secured to the end of the vessel, supports it on the pipe. This passage is so made that immediately the vessel is inclined to empty the same and cause a flush the supply pipe is closed and no more water can enter until the vessel is returned to its level position, which is effected automatically as the vessel is pivoted out of its centre line so that one side is heavier than the other. A low transverse mid feather is formed in the bottom of the cistern so that when the vessel is emptied some of the water is retained behind and passes away through small holes in the mid-feather, thus causing an after-flush. An inclined plate is fitted below the oscillating vessel to prevent the water splashing over.

Published during the week ending February 23, 1884.

3,146. M. Syer, J. Gilmore, and W. R. Clark, London. Flushing apparatus and waste-not valves to be employed therein. June 25, 1883. Price 6d.

The outlet pipe from the cistern is governed by a flexible diaphragm, which is pressed home to its seat by a spring from a dome above. When the handle of the closet is lifted the air is exhausted from the space between the diaphragm and the dome, whereby the diaphragm is lifted and the water flows down until the vacuum disappears, when the diaphragm is again pressed down by the spring.

3,200. H. Burgin, Walthamstow. Appliances for inducing air from chimneys, &c. June 27, 1883. Price 6d.

Round the top of the chimney is placed a cylinder, which extends above the head of the flue, and has a series of vertical ⊤ or ⊥ shaped apertures or divisions, up which the air rushes.

3,204. J. Farrimond and J. Whittaker, Southport. Ventilating water and other closets. June 28, 1883. Price 6d.

An upcast shaft, which is jacketed to maintain its temperature, is connected with the basin of the closet.

3,212. W. E. Diehl, Philadelphia, U.S.A. Door retention stop. June 28, 1883. Price 2d.

A cup is fixed on a standard on the floor and an elastic ball on the door. When the door is opened the ball is forced into the cup, whereby the door is retained in its position. (*Pro. Pro.*)

3,226. A. Selim, London. Driving gear, with continuous motion applicable to ventilators. (Com. by P. C. J. Lemaire and A. E. Poley, Paris.) June 29, 1883. Price 2d.

The ventilators are driven by a hand-lever or a pedal through a series of friction clutches and wheels. (*Pro. Pro.*)

3,311. D. G. Cameron, London. Flushing apparatus. July 4, 1883. Price 6d.

The cistern is divided into two compartments, in each of which is a syphon. The short legs of these syphons consist of caps over the long legs, and the caps are connected to a lever, pivoted in the middle between them in such a manner that when one of the syphons is closed by the cap resting on the mouth of the long leg the other syphon is open. A chamber is formed below the cistern, into which both the long legs of the syphons open, and low partitions are made to retain some water in both sides of this chamber, sufficient to seal these long legs, and the flushing-pipe issues from the middle of this chamber, between the partitions. When the water is admitted to the cistern, nearly up to the level of the mouth of the stand-pipes, the lever is drawn down, and the cap that had closed the mouth of its long leg is lifted off the same, thus creating a vacuum, whereby syphonic action is set up, which empties this compartment and causes a flush. When this is finished the lever is released, and the other cap is lifted, and the water in the other compartment gives the after-flush.

5,152. W. R. Lake, London. Plumbers' traps. (Com. by T. N. Du Bois, New York, U.S.A.) Oct. 30, 1883. Price 2d.

These are drawn from a single piece of soft metal, with two or more seals.

Asthall.—The Church of St. Nicholas, Asthall, Oxon, is to be restored and re-roofed under the superintendence of Messrs. Collier & Merrin, of Rood-lane, London, Mr. Alfred Groves, of Milton-under-Wychwood, Chipping Norton, being the contractor for the works. The chancel is not included, but it is hoped that the necessary works to this will be undertaken by Eton College at the same time.

CARSHALTON, SURREY.

Of the many pretty villages that formerly surrounded London, but which have been gradually swallowed up in its rapacious growth, Carshalton is one of the very few that retains most of its primitive picturesqueness. A full account of this ancient parish and its church has been well written by Mr. Thomas Milbourn, architect, and published in the seventh volume of the "Collections of the Surrey Archæological Society." The monuments and brasses in the church have also been described in an interesting paper by Mr. J. G. Waller in the same volume. Opposite the venerable church stands Stonecourt Lodge (long the residence of the late Mr. Jonah Cressingham, the well-known agriculturist), with its open grounds, ornamental pond, and waterfall, forming a picturesque group in the heart of the village that few Londoners have seen, excepting those who drive from London to Epsom, *viâ* Carshalton. A fine pair of Queen Anne wrought-iron gates at the entrance to Mr. Colman's park is well worth the inspection of those who take an interest in that kind of workmanship. In Brayley's "Surrey" we read,—"Close to the churchyard is a well of the purest water, and tradition has connected this with the memory of Queen Anne Boleyn. According to report the spring arose suddenly from a hole into which her horse had accidentally stuck its foot whilst passing here."

Queen Anne Boleyn's well is covered over or protected by a "cambered" or arched stone, a method frequently used in Surrey to protect wells, and thereby probably, in the opinion of some, originating the name of Camberwell, now a suburb of London. The chief attraction, however, of Carshalton is, thanks to Mr. Ruskin, the famous well or spring where the river Wandle takes its rise, and after passing through Wimbledon falls into the Thames at Wandsworth. In 1875 this spring having become choked up, and the well being in a very neglected condition, Mr. Ruskin had it restored, at a cost of about 500*l.*, and placed a quaint inscription over it, as follows: "In obedience to the Giver of Life, of the brooks and fruits that feed it, of the peace that ends it, may this well be kept sacred for the service of men, flocks, and flowers, and by kindness called Margaret's Well. This pool was beautified and endowed by John Ruskin, Esq., M.A., LL.D." Margaret was the Christian name of Mr. Ruskin's mother. The well lies by the side of the roadway, and may be fairly said to yield the only drop of pure spring water to be obtained within ten miles of London, but the inscription,—where is it now? A piece of bigotry or red-tapism caused it to be feared that, having Mr. Ruskin's name attached, that either he or his successors *might* hereafter lay claim to the place, so the authorities objected to the inscribed panel, and ultimately it was taken down. But although Carshalton possesses most of its pristine beauty and quaintness, a good deal of modern building, public and private, has lately taken place. Among the new buildings may be mentioned the Carshalton Public Hall, a spacious building, erected in 1874, for public meetings, concerts, and other entertainments, by Mr. Charles Coles, builder, from designs furnished by Mr. J. D. Hayton, architect, of 5, Whitehall, and Carshalton.

By far the most important works erected in this neighbourhood of late years have been the Board schools, built for the Carshalton School Board. These occupy a site at the junction of Camden-road and West-street, having frontages of 250 ft. by 120 ft. to those streets respectively, and occupying a space of nearly three-quarters of an acre. The site cost 820*l.*, and is covered by three blocks of buildings,—the girls', the boys', and the infants' schools, but they have been erected at different periods. The foundation-stone of the girls' school was laid June 24th, 1874. The accommodation is similar to that in the boys' school, which is for 250 girls; it was erected by Mr. D. Stewart, builder, from drawings by Mr. A. G. Hennell, architect. The cost of erection, including board-room, mistress's residence, clerk of works, architects' commission, and desks and fittings, amounted to 2,676*l.* 1s. 11d. The boys' school, 70 ft. by 20 ft., has two class-rooms, 21 ft. by 16 ft. 6 in. each, cloak-room, and conveniences attached, to accommodate 250 boys. The heating apparatus is on Messrs. Bacon's high-pressure system. The foundation-stone informs us that "this building was publicly opened on the 9th of January, 1878

by Sir Trevor Lawrence, bart., J.P., M.P." Mr. F. T. Trebble, builder, carried out the work from the designs of Mr. J. D. Hayton, architect, of Carshalton, at a cost of 2,014*l.* 1s. 1d. The third block is the infants' school, 50 ft. by 20 ft., with babies' room, 20 ft. by 20 ft., class-room, lavatory, conveniences, &c., attached, to accommodate 200 children. The heating apparatus is by Mr. Jones, of 42, Farringdon-street. The commemoration-stone says, "This Building was publicly opened on June 4th, 1883, by the Right Hon. the Earl of Egremont, Mr. J. Baines, B.A., chairman, Mr. H. W. Crawford, vice-chairman," &c., "J. D. Hayton, architect, and S. J. Evans, builder." This block cost (including paving playground, boundary walls, and architect's commission) 1,288*l.*, so that the total cost of the three blocks, including site and incidental charges, amounts to only 6,798*l.* 3s. All the schools are well lighted and ventilated; they are faced with red bricks and Bath stone dressings. The conveniences are on the dry-earth system. The infant schools are built with selenitic mortar.

WESTMINSTER ABBEY: PROPOSED CAMPO SANTO.

SIR,—I have perhaps as much veneration for the relics of bygone days as Mr. Somers Clarke himself, and would, I believe, be the last to recommend the destruction of any fragment belonging to the past, without adequate cause for so doing. But I confess I have very little sympathy with the extreme doctrines of those who will allow of no change, and would stop all improvements because some comparatively insignificant building is interfered with, or some long-desecrated site must be utilised.

In the present instance, I confess I cannot speak of the Infirmary Hall or Ward from personal knowledge. It is incorporated in a private dwelling-house, and therefore not accessible to ordinary "Cockneys." But if the Ordnance Survey is to be trusted, it is only the northern portion that can remain entire, or nearly so, and though that may be sufficient to enable a clever architect to rebuild and restore the whole, the question then arises, Is a restored infirmary-hall a more desirable or appropriate occupant of the site (the "residence" must come down, and be removed in either case) than such a building as I propose should be erected on the site?

I have seldom, I confess, been more puzzled than by Mr. Clarke's very detailed plan and description of St. Catherine's Chapel. When I looked in upon it, I saw nothing but a very ill-kept garden, and, believing in consequence that it had entirely vanished, I looked no further. The question between us can easily be settled by evidence that no one, I believe, will be inclined to dispute. If any one will carefully examine the published sheet of the Ordnance survey, containing the precincts of the Abbey, to the scale of 88 ft. to the inch, he will see, that while the surveyors mark with the most scrupulous accuracy every room in every house in the neighbourhood, they failed to detect the existence of any vestiges of the chapel. They represent the site of "St. Catherine's Chapel" as wholly occupied by a garden or shrubbery. They neither saw "the chancel" nor its altar, "nor the considerable portions of the chapel which are complete." At least they did not mark them on their plan. I do not doubt, nevertheless, that some portions of its outer walls may be incorporated in the neighbouring houses, and that a clever architect from them, and by excavation, might restore its plan and elevation with more or less accuracy. But as nothing is now visible, on the site above the ground-level, it is evident that if the chapel is to be made visible to "Cockney" eyes, it must be rebuilt from the foundation, and here, as in the case of the Infirmary Hall, the question arises, Would a spick-and-span new nineteenth-century Infirmary Chapel be a better or more appropriate occupant of the site than the new south transept I suggested?

In my scheme I did not propose to interfere with the "slype" nor with the houses on the north side of the "little cloister"; they may, as far as my proposal is concerned, remain in all their pristine meanness; but I confess I have no sympathy with the "boundary-wall," which has certainly no beauty, and the sooner it is cleared away the better.

In his letter to you, which I am attempting to answer, Mr. Somers Clarke states that he considers the buildings that would be destroyed by my scheme "as interesting as the Jerusalem Chamber or the College Hall." If this is his opinion I can only say it is not mine. These two apartments have considerable architectural merit, and are brimful of historical and other interesting associations. I am not aware of any historical or other local interest that attaches to the Infirmary buildings of the Abbey, and it remains for Mr. Clarke to show what architectural beauty is to be found in the Hall, while I can answer for none attaching to the Chapel, so that my regrets for their being replaced by such a building as I proposed would be of the most evanescent character.

At the present moment two of the Canons, being dissatisfied with the "second-class residences" provided for them in the old Infirmary buildings, are providing themselves with new "first-class residences" in the college-gardens, and I have no doubt that any others that may be displaced by my proposals will be only too glad to follow their example. While this is so I confess I cannot share Mr. Clarke's fears, that "presently there will be no one left to bury the illustrious dead, or serve the altar." With our growing population and increasing number of clergy I do not think there is much room for anxiety under these heads, even were my scheme ten times more extensive than it happens to be.

If nothing can be urged against my proposed new south transept more cogent than the few somewhat irrelevant objections contained in Mr. Somers Clarke's letter in your last issue, I feel convinced that, before long, my proposals will be considered worthy of serious attention, not only by the public, but by those more immediately concerned in providing increased accommodation in Westminster Abbey for sepulchral purposes.

JAMES FERGUSSON.

20, *Langham-place*, Feb. 25, 1884.

SIR,—In reference to Mr. Fergusson's communication [p. 227] on Sir Gilbert Scott's scheme for a Campo-Santo next Westminster Abbey, and his own suggestive illustration of a "transept," or "monumental chapel," there scarcely seems to be real need for any such addition. Doubtless the interior of the Abbey will at some distant date cease to be available for the ashes of the illustrious dead; but even then a large space remains in the garth, or central area of the cloisters, where, it is believed, no bodies, or extremely few, have hitherto been interred, animal remains only having been found on recent excavation. Still, there is ancient precedent for appropriating such open ground for the graves of those whom men most revered. We read in the "Antient Rites of Durham" that, "Long before the church was finished the body of St. Cuthbert was by the said Bishop Ranulph translated again out of the *cloister-garth*, where the said Bishop Carlipho had made him a very sumptuous tomb to lye in." Again, the difficulty noticed by Mr. Fergusson that interment in an adjoining Campo-Santo (or, indeed, *modern* transept or chapel) would not be considered as "equivalent to being buried in the Abbey" is practically solved by the cloisters forming so component a part of the venerated precincts.

E. L. TARBUCK.

MECHANICAL AIDS TO SCULPTURE.

SIR,—With reference to the machine described by Mr. George Simonds, on page 141, as an aid to sculpture, I would beg to draw attention to the machine made by Messrs. Kennan, the well-known lathe-makers, of Lishamtle-street, Dublin, for the late Mr. Charles Shaw, of that city, and which is described and figured in the "Illustrated Catalogue of Machinery in the Great Exhibition of 1851."

This machine, which was placed on an ordinary lathe-bed, had all the arrangements described by Mr. Simonds, but on a much smaller scale, The tables or horizontal chucks for the work, and the object to be copied, were driven at an exactly uniform speed by worm-wheels and tangent screws, and in order that straight line mouldings, as on the plinth of a statuette, might be truly reproduced, there was an arrangement beneath the bed of proportionate slides, by which the object and copy could be traversed to and fro beneath the drill and tracing-point at rates proportionate to the relative size of original and intended copy. To enable this to be done, the tangent screws driving the chucks were fitted as sleeves on the hexagonal bar or rod which conveyed motion to them, and the screws thus remained in gear with the chucks while the latter were in motion.

The drill and tracing-point were fixed at the points required on a long bar suspended above the work, with a universal point adjustable vertically, as described by Mr. Simonds, and, in fact, the arrangements are almost exactly similar, except that Mr. Shaw's machine has the advantage of the proportionate longitudinal movement which I have attempted to describe. It will thus be seen that there is no new feature in the appliance described by Mr. Simonds, except that it is only used for pointing in place of mechanically copying.

HENRY D. CROZIER,
Lieut.-Col. R.E.

SIR,—I have read with much pleasure in your issue of the 16th inst. Mr. M. Powis Bale's letter, in which he describes in the plainest and most lucid manner the machines constructed by Watt for copying sculpture. I fear, however, that I cannot admit that these machines were quite successful, because, although I am well aware that they did reproduce sculpture, I do not believe that such reproduction was or could be satisfactory, from an artist's point of view, on a machine of such construction as the Eidograph of Watt. There are two causes of imperfection, which cannot easily be got rid of,—namely, elasticity in the parts of the machine itself, and wear of the cutter or drill; I believe, also, it is a fact that the use of this machine was abandoned, which does not look like a complete success. I say nothing of the other machine, because there are plenty of reducing instruments which work well on a small scale.

GEORGE SIMONDS.

152, *Buckingham Palace-road, S.W.*

VENTILATION.

SIR,—Your valuable publication frequently contains dissertations on ventilation, often instructive, but not always so. The modes propounded cannot all be correct; especially, I should say, those which resort to artificial means, to the partial or total exclusion of natural ones. If perverted ingenuity were spent in the invention of a machine to help a river over a waterfall the wise would only smile at it; but it is not so certain that the gaping multitude would do so. Human nature believes in the mysterious, and hence the faith in machines and apparatus so widely applied to the ventilation of halls and theatres. If the river is not obstructed it will find its way over the cascade without help: so with halls. If only freedom of action is allowed them they will ventilate themselves. Such places are like a butt of water acting the reverse way. Make a hole in the bottom and out rushes the water; make a hole in the roof and out rushes the foul air. The water is heavier than the atmosphere and down it falls; the foul air is lighter, and up it rises. Ventilation is a common action of nature, and needs no machinery. All it asks is not to be obstructed. But it must have free course. There must be outlet above and inlet below. These provided, ventilation will proceed without the assistance of engineering of any kind.

EXPERIENCE.

SIR,—In reply to the letter on p. 180, I have ventilated such a dining-room in my own house, 20 ft. by 16 ft. I went on the plan laid down by Capt. Douglas Galton, as follows:—"That the simple forms of ventilation rest on the principle of an *outlet* for the warmed air and an *inlet* for fresh air. The position of the inlet is of material importance, because the question as to whether draughts are felt or not necessarily depends upon that. It is desirable to admit fresh air, especially cool air, at the upper part of the room, above the heads of the occupants. It thus becomes partially warmed by the air already in the room. The Sheringham ventilator is admirable in this respect, in that it is placed near the ceiling, and the incoming air thrown upwards. If, in addition to the Sheringham ventilator a flue be carried up from near the ceiling of a room, the air of a room, if warmer than the outer air, will pass up the flue,—if a warm one,—and its place be supplied with air through the Sheringham ventilator, one will act as an outlet and the other as an inlet."

I fixed two Sheringham's inlets, 9 in. by 3 in., in the exterior wall, one each side of a large window, about 2 ft. below the ceiling, and one of Boyle's mica outlets, 11 in. by 11 in., in the chimney-breast immediately under the cornice. By this arrange-

ment the upper stratum of air in the room is continually changed imperceptibly, and without draught. A great advantage, too, from this plan is, that when all have retired to bed, the action of these vents is not impeded, and the air in the room is absolutely fresh in the morning.

These have now been fixed two years and a half, and I find that the close, stuffy atmosphere from the gas and exhalations from the persons in the room, have been entirely removed.

The Sheringhams can be closed if there is a high wind, or during the day when there is no gas. However, mine are practically always open.

I obtained the ventilators from Messrs. Hayward Brothers, the makers, and they are easily fixed by a handy local man.

I frequently show friends after dinner how they act, by a lighted taper, which, on being held near the Sheringham is almost blown out, and when it is held near the Boyle's vent in the chimney-breast the current into the flue sometimes snuffs out the taper. Several have adopted this plan with satisfaction.

I. In reply to the first question, I have found that cold air brought in by vertical tubes often attains such a velocity that it strikes the ceiling, and is deflected down, which added to its own superior weight, causes a feeling of draught, while air let in by a Sheringham ventilator direct through the wall does not attain such a velocity, and is diverted upwards by the sloping door and along the ceiling, and no draught is experienced.

II. The cast-iron pipe would be useless as an outlet, and it would generally act as an inlet.

III. No; the only way is to lead it into a flue, which must be warm, or there will not be an ascending current. W. E.

THE VENTILATION OF THEATRES.

THE LYCEUM, THE HOUSE OF COMMONS, ETC.

SIR,—I have read Mr. J. P. Seddon's paper on "The Ventilation of Theatres" [pp. 225, 282, *ante*], and if the hygienic condition of theatres in London is on a par with that of the Lyceum, I can fully endorse his remarks. On two visits lately to see Miss Anderson, in the "Lady of Lyons" and "Pygmalion and Galatea," although the house was not uncomfortably filled, the air was so vitiated and attenuated by the time the second act was reached as to greatly neutralise the enjoyment of the acting and spectacular effects which have made the Lyceum so deservedly renowned; and it is a pity that, with all the progress in dramatic representation, the hygienic condition of the house is not of equal excellence.

The suggestion that the *plenum* system of ventilation should be adopted for theatres is worthy of consideration; nevertheless, the application of this principle has not always been attended with success. In the Strangers' Gallery of the House of Commons during the debate on the Address last week I was struck with the unquestionable vitiation and heat of the air; a two hours' stay produced on myself and others a degree of languor accompanied with a headache, both evident signs of imperfect ventilation, and, if I mistake not, the House of Commons is ventilated on the *plenum* principle. Probably the floor of the House was agreeable enough, but the galleries! What must be the condition of the reporters in the opposite gallery, after hours of continuous and exacting labour, in a crowded house?

The problem of ventilation for large public buildings is a most difficult one to solve, and even now is as far from having received a practical and proved solution as ever. The Free Trade Hall, Manchester, is generally considered to be well ventilated; but when it is well filled, it is, from my own experience, far from satisfactory. The downward principle of ventilation, where the air inlets are at the upper part of the rooms, and the air outlets at the floor level, has been applied to the lecture-halls, &c., of the Glasgow University, but has not given universal satisfaction, if one may judge from the discussion at the Institution of Civil Engineers which followed the reading of a paper describing the application of this principle of ventilation.

Some time ago I suggested the use of hot water or steam coils fixed opposite all the air inlets in the corridors of public institutions, and the utilisation of sun-burners or regenerative-lamps, both very effective air-exhausters, for producing the necessary vacuum.

If the walls dividing the auditorium from the corridors were sufficiently supplied with openings covered with fine wire gauze, the air would then pass into the corridors through the external walls of the theatre, &c., becoming heated on impinging on the heated coils of pipes, would collect, become diffused and equable in temperature, and then imperceptibly enter into the auditorium through the gauze-covered inlets.

That the proper position for air inlets in an inhabited room is close to the ceiling, is further confirmed by the followlng results of observations of the carbon-dioxide (CO_2) in the air of a sitting-room, for which I am indebted to Prof. Thorpe, F.R.S., F.C.S.

Quantity of CO_2 contained in a sitting-room, in which two candles were burning:—

	Per 10,000 vols.
Carbon-dioxide, near the floor.....	7·33
Ditto half-way up.....	9·00
Ditto near the ceiling	14·65

According to Dr. Parkes, the quantity of carbon-dioxide (CO_2) in air permissible, for healthy respiration should never exceed six volumes in 10,000, the normal quantity in atmospheric air being four volumes of CO_2 per 10,000.

B. H. THWAITE, F.C.S.

HOLBORN HILL IMPROVEMENTS.

SIR,—I perceive that some interest was expressed at the Architectural Association meeting of the 15th ult. [p. 283], on the proposal of the late Mr. Bunning to alter the level of Holborn Bridge. I was an assistant in the office of the "Clerk of the City's Works,"—such was the official designation of the City Architect in my day,—when such a plan was mooted, and I have a vivid impression that it merely extended to raising the level of the crossing of Farringdon-street 6 ft. Such an alteration would have easily admitted an incline in Farringdon-street by which to ascend to the new level of Holborn Bridge.

At the same time, the descent of Holborn Hill might have been made so much more easy, that to those familiar with its former alarming steepness, the alteration would have seemed a solid and valuable improvement. Besides, that pretty bit of old London scenery, St. Andrew's Church, in its dignified position above the level of the street, would not have been so entirely sacrificed as it is now. But I fear a new generation would not have been so easily satisfied. The old steep slope having passed out of mind, the new easier slope would have been thought a muddle and a makeshift. I do not apprehend that Mr. Bunning was very enthusiastic about his own scheme. He probably thought it more within the range of possibility as regards pounds, shillings, and pence than a viaduct scheme. A hasty plan was made out to lay before some committee, but no attractive set of plans, elevations, and sections to show necessary alterations to the adjacent houses was ever entered upon in the office during my experience there. GEORGE MACKENZIE.

Holloway, N., Feb. 26, 1884.

THE LATE MR. WILLIAM CROSS.

SIR,—I have not seen in any of the trade papers a notice of the death of Mr. William Cross, of 105, Blenheim-crescent, Notting-hill, who for many years had the entire management of the masonry department for Sir John Kelk, and in later years for the firm of Messrs. G. Smith & Co.

Many large and important works have been carried out under his superintendence, notably the Prince Consort's Memorial (of which he had the entire charge), the Grosvenor Hotel, Manchester Town-hall, the extensive alterations at Eaton Hall for the Duke of Westminster, and Meaford Hall. Mr. Cross was an enthusiastic lover of his trade, and it will be in the recollection of your readers that some time ago he took an active part in writing about the decay of stone in London, &c.

He died on the 8th ult., deeply regretted by all who knew him, and was buried at Kensal-green on the 14th ult., a very large concourse of friends being present.

By the demise of Mr. Cross the trade has lost a man highly respected both by employer and employed, and by all who had dealings with him,—a man of large knowledge, upright, and of sterling integrity. SAMUEL TRICKETT.

PIPES *v.* FAÇADES.

SIR,—The wishes of your correspondent "Belsize" [p. 285, *ante*] have been anticipated by Mr. Harrington, of Ryde, who has a patent for ventilating sewers which has been tried and reported on as very successful by Sir R. Rawlinson and other competent authorities. We are engaged making tiles for it of red and white brick to harmonise with the colours of houses already built. These will be shown at the forthcoming Health Exhibition, and a trial is about being made in a London street of houses built of white brick. DOULTON & CO.

Grove-road, Victoria Park, E.
Feb. 25, 1884.

LLANELLY HOSPITAL COMPETITION.

SIR,—In your reference to this competition in the last issue of your journal [p. 285], it is stated that Messrs. Wilson & Dyer, of London and Swansea, were placed second by Mr. Salter, the referee.

Will you permit me to say that the order should have been reversed, and the note have read thus:—Wilson and Dyer (joint architects), of *Swansea* and *London*? CHARLES E. DYER.

Restoration of Wood Carvings at Lubeck.—The work of renovation for some time in progress in the "War Chamber" of the Lübeck Rathhaus has been completed, and the result is spoken of in the German press as doing justice to the artistic wood carving of the apartment. There is a project before the authorities for providing the room with a carved wood ceiling, for which Herr von Grossheim, of Berlin, has drawn up a detailed plan.

INTERNATIONAL HEALTH EXHIBITION

PREPARATIONS for the holding of this Exhibition are proceeding rapidly. The Board of Trade have certified that the Exhibition is an International Exhibition, and exhibitors thereat will accordingly participate in the privileges accorded by the Patents, Designs, and Trade Marks Act of 1883. The officers of Her Majesty's Customs have also announced that the Lords of the Treasury have consented to the buildings being considered as a bonded warehouse during the continuance of the Exhibition, as was the case at the late Fisheries Exhibition. The General Committee now numbers nearly four hundred members, and from these, seventeen sub-committees have been formed.

In response to a request made by his Royal Highness the Prince of Wales, president of the Exhibition, the eight water companies of London have resolved to exhibit in a pavilion which is being erected for them, their appliances for the supply, filtration, &c., of water, together with diagrams showing the various processes and localities; and a powerful sub-committee, under the active chairmanship of Colonel Sir Francis Bolton, has been formed to carry out this branch of the Exhibition. The water companies have also determined to put up in the grounds a large fountain, which will be illuminated at night by electricity. This fountain of light will, it is anticipated, materially add to the beauty of the illumination of the gardens.

It is impossible, as yet, to give any definite information with regard to foreign countries; but, so far as one can judge at present, Belgium, China, and India will be the best represented. A Royal Commission has been appointed in Belgium, and the Consul-General in London is their active representative here. To China has been allotted the space which it occupied last year at the Fisheries Exhibition, and a Chinese tea garden, restaurant, and shop will not be the least interesting objects in the Exhibition. India is to be adjacent to China, and strenuous exertions are being made to secure the united action of many of the principal tea-planters in India, so as to insure a good and representative show of the Indian tea-growing industry.

INTERNATIONAL HEALTH EXHIBITION, 1884.

"PROPOSED MODEL HOUSE."

SIR,—I was pleased to see that my letter, signed "Sanitary Engineer" (p. 217, *ante*) elicited approval from some other of your correspondents, and I most cordially approve of the suggestion of Mr. H. H. Bridgman that you, sir, would be doing a great public service if you would bring this question before the Exhibition authorities in a tangible form. It certainly should not end simply in letter-writing, if only for the sake of our foreign and colonial contributors, who naturally look up to an international exhibition held under the auspices of H.R.H. the Prince of Wales as one in which the strictest justice will be done. Now if the proposition of the sub-committee is carried out, it will be most unjust both to the general public and exhibitors, and will doubtlessly prove to be very prejudicial, if not disastrous, to the success of the several international exhibitions proposed to be held in London during the next few years.

I feel certain if this matter were brought directly under the notice of his Royal Highness, such steps would be at once taken as would prevent at least one section of the International Exhibition of 1884 becoming "a great shop" for the special advertising of the wares,—good or bad as they may be,—of a certain few firms. SANITARY ENGINEER.

Death of Mr. William Huggins.—The death is announced at Christleton, Chester, of Mr. William Huggins, the well-known animal painter, aged 63. Mr. W. Huggins was born in Liverpool in 1820. He obtained recognition by his faithful delineations of wild beasts in Wombwell's Menagerie. He afterwards received the name of the "Liverpool Landseer." His highest powers were perhaps shown in his partially-tinted crayon studies of lions and tigers, some of which were distinguished by remarkable power of drawing and foreshortening, and catching the very nature and character of the animal's action and expression. Mr. Huggins received his early artistic education at the old Liverpool Academy in its palmy days. He afterwards resided at Chester, Bettws-y-Coed, and Llanbedr, where he lost his wife, and then returned to Christleton, Chester, where he died in consequence of partial paralysis. Mr. Huggins of late years has only been able to follow his profession with extreme difficulty.

BREACH OF BUILDING BY-LAWS.

CONCRETE.

AT the Brentford Petty Sessions on Saturday, before Mr. F. H. N. Glossop and a full bench of magistrates, Mr. W. H. Waters, builder, The Common, Ealing, appeared to a remanded summons issued at the instance of the Ealing Local Board, charging him with neglecting to comply with the tenth by-law of that authority, which provides that every domestic dwelling-house to be erected in the district shall have a layer of "good cement-concrete" of 6 in. thickness upon the ground surface within the external walls of the building. The case had been adjourned from the 9th day of February, when the defendant had contended that in using a concrete madeof blue lias lime, as contained in the specifications of his contract, he had complied with the by-law.

Mr. Charles Jones, Surveyor to the Ealing Board, claimed that concrete made of blue lias lime did not constitute a cement concrete, and the summons stood over for the production of expert testimony on the subject. The case gave rise to much local interest, as during the last few weeks a number of convictions against "jerry-builders" in the Ealing district has been obtained, and the defendants fined in substantial penalties.

The prosecution called Mr. James Woodhouse, who deposed that he had had considerable experience of all kinds of concrete work; he had been engaged on sea-walls, and under General Gordon on the forts in the Sheerness district. He did not consider that concrete made of blue lias lime came within the definition of "good cement concrete"; the two things were different. The one was a lime concrete, but was not cement concrete. The one, Portland cement, was made of chalk and clay, the other of stone.

The evidence of Mr. Jones was read over, and in cross-examination he stated that the by-law was framed upon a modern edition of the Model By-laws of the Local Government Board, and had been approved by the Department. It was not an exceptional by-law, though he could not say whether other sanitary authorities in this district had it in force. The by-law did not demand a Portland cement concrete, but this was the only one he should consider to be a "good cement concrete." (The Chairman thought it a pity that Portland was not mentioned specifically in the by-law.) Mr. Jones replied that the by-law was strictly modelled upon those issued by the Department. In further cross-examination, the witness admitted that both Portland cement and blue lias lime were of a binding character; but the object of this by-law was to prevent damp rising.

The Chairman, in fining the defendant 5*l.*, said the Bench had to determine whether, in their opinion, the by-law had been complied with. A concrete made with blue lias lime might be ten times better than concrete made with Portland cement; but if it was not "good cement concrete," the defendant had infringed the by-law. When builders came into a district to construct houses, they should make themselves acquainted with the by-laws of that district, and comply with their terms, such as had not been done in this instance. He refused to grant a case, as the question was one purely of fact.

FEES FOR SUPERVISION OF DRAINAGE.

TODD *v.* GREENWICH DISTRICT BOARD OF WORKS.

THIS case (if not set aside on appeal) settles a point which has been much debated between surveyors, acting on behalf of private owners, and Local Boards, which derive their powers from the Metropolis Local Management Act.

It was an application for a Prerogative Writ of Mandamus to issue commanding the Board of Works for the Greenwich District to pass certain plans for drains and sewers on an estate belonging to Mr. C. W. Todd at Old Dover-road, Blackheath, and to give their sanction in writing to the construction of such drains and sewers, pursuant to sections 47 and 48 of the said Act.

The plans had been prepared by Mr. Todd's surveyor, and sent to the Board of Works for their approval, in accordance with the provisions of the Act in that behalf. The Local Board, in their turn, sent these plans on to the Metropolitan Board for their sanction. Shortly after this the Local Board's surveyor wrote to Mr. Todd's surveyor, telling him that his plans had been sanctioned by the Metropolitan Board, and that the consent of the Local Board would be given on Mr. Todd sending them a cheque for 35*l.*, "on account of the cost of supervision." In reply to this, Mr. Todd's surveyor wrote informing the Board's surveyor that there was no power in the Act to make any such charge, and that it would not be paid. As it was found impossible to induce the Board to give their sanction without legal proceedings, such proceedings were accordingly instituted, with the result that on each occasion when it has come before the Court (three times) the judges have unanimously decided that the charge is not provided for by the Act, and is consequently quite illegal. The contention of the Board's counsel was that, inasmuch as under sec. 52 the Board have power to make the drains and sewers themselves, and can charge the owner all that it may cost them (which would include a charge for the salary of the clerk of the works to supervise), that they ought not to be placed in a worse position (in the interest of the ratepayers) when the owner elects to do the works himself. In answer to this contention the judge pointed out that the two sections were on a totally different footing, and that he could not construe sections 47 and 48 together with section 52.

It was then very strongly urged by the Board's counsel that it was necessary that the Board should be at liberty to appoint a nominee to supervise the works while in progress, as almost immediately after their completion they would become the property of the Board, and would have to be repaired and kept at the expense of the ratepayers; but, in answer to this contention, Mr. Justice Day pointed out that if the owner did the works improperly, he would be subject to a penalty of 50*l.*, and that they, the Board, could appoint a nominee to supervise, if they liked, but that if they did so they must pay him themselves.

CHURCH BUILDING NEWS.

London.—The new north aisle of the Church of St. Mary Magdalene, Munster-square, was lately opened for use. It is erected in memory of the founder, the late Rev. E. Stuart, its first incumbent, who, in 1849-52 erected the nave, chancel, and south aisle, from the plans of the late R. C. Carpenter. He also provided for and left plans for this new aisle, and for a south-west tower and spire. These plans for the aisle have been carried out with a crypt under its whole length, used as work and caretaker's rooms, and for a mortuary, under the direction of Mr. R. Herbert Carpenter and Mr. B. Ingelow. The idea of the design was based by the architect on the grand lofty town parish church type, with wide side aisles of almost equal proportions with the nave,—such a church as the ancient one of Austin Friars in the City of London was. The arcades are of five bays each, with a bay to the chancel aisles. The windows are of three lights at the side and four and five at the west and east ends respectively. A turret, with stairs descending to the crypt, stands on the north side, crowned with the sanctus belfry. The north porch is groined with stone, and has moulded and carved archways and ribs; the gable is filled in with a richly-carved cross, with the emblems of the Evangelists, and crowned by the representation of the "Pelican in her piety," on a ground of diapered carving. The new work, like the old, s built with Kentish rag stone, with Bath stone dressings, and the roof is covered with tiles. The church now measures 110 ft. total length, and is 69 ft. wide inside. The contractor was Mr. Bentley, of Waltham Abbey, and Mr. Creed was the clerk of works. The whole of the older portion has been carefully cleaned, including the painted figures and decoration of the sanctuary. The formal completion will not be till Ascension Day, as the external fencing, &c., has yet to be done. The church has very deep foundations, and the new work stands on a beautiful sand; the older part of the church had bad foundations, the ground having been disturbed; it has, therefore, a crypt entirely under it. Messrs. Kelk were the builders then employed under the late Mr. Corby as clerk of works. All the windows of the older church are filled with stained glass; the finest are by Clayton & Bell and by Hardman, from the late A. W. Pugin's design. At the east end of the new aisle is an altar raised on three steps for occasional use. It has a dossal behind it, and, by the wish of the Bishop, a curtain is drawn on the parclose screen between it and the chancel during its use. The whole of the church is well lighted all round, and the tower and spire will stand at the south-west angle and be used as the principal entrance. The northern entrance, now the chief one, will have gates added to it, the work of the hands of Messrs. Phelps, sons of the Master of Sidney Sussex College, Cambridge. The first stone was laid in July, 1849, by the late Baron Alderson, and the corner-stone of the Stuart aisle was laid in 1883 by his daughter, the Marchioness of Salisbury.

Market Drayton.—The ancient parish church of St. Mary, Market Drayton, has been reopened, after extensive restoration. Before the restoration the church presented but few signs of antiquity, with the exception of its tower, which stands up boldly on the rocky hill, and the chancel walls. The aisles had been rebuilt as two-storied buildings, with great galleries; the clearstory had been rebuilt in a sort of Egyptian style, and all the roofs were low, hipped, and covered with common slates; and the interior, besides the galleries, was filled with high pews in various stages of decay. Very careful examination was made by the architects during the pulling down; all ancient fragments were preserved, and it is asserted that the original design of the church has been recovered with more or less certainty. The church has a broad lofty nave, with north and south aisles extending to the west face of the tower, and chapels, and a large chancel and western tower. The west doorway shows the former existence of a Norman church, and some of the capitals and columns are of the thirteenth century, as in the lower parts of the west and north walls of the north aisle, with portions of its windows, the chapel doorway, and an arched recess. Considerable portions of the chancel walls are also of early date, and on the east gable are the lines of the high-pitched roof. In the fourteenth century the whole of the church was rebuilt, and at the same time the great tower was erected. The arcades were the older arches, and some capitals with new columns. The south aisle was of the same date, and the chapel and a low clearstory were erected, continued later in the fifteenth or sixteenth century along the chancel, thus forming one long roof line, divided only by the "Sanctus bell" cot (the bell-rope hole of which still exists), near where the rood loft was. In later times there were two, if not three, loftier clearstories built, in order to gain more light for the gallery-encumbered church, leaving that of the chancel. It was, on examination, found that the columns had been pushed down into their own crumbling foundations and were much out of the perpendicular, and, in fact, only kept up by the gallery beams. These columns have been rebuilt on new solid foundations on the rock, the old stones both of columns and arches being replaced. The clearstory is new; no trace remained of the design of the original one, and the new one is in harmony with the fourteenth-century work, and gives ample light to the church. The north aisle, however, is restored according to some few old stones found, and is an interesting example of the first introduction of tracery in the thirteenth century. In the south aisle stones fixing the mouldings of the windows and doorways were found, and have fixed the type as that of the best period of the fourteenth century. There were originally north and south porches, where the remains of doorways exist. It was impossible, by reason of the interments, to rebuild them. The chancel wall windows are of the fourteenth century. It was then lengthened beyond the original eastern line, and the piscina was moved and refixed. A few remains existed of the old oak roof,—viz., a richly-moulded tie-beam of the early high-pitch roof, and some fragments of the latter roof. The mouldings of these last have been adopted in the new chancel roof. All the roofs are of oak, covered with lead. That of the chancel is more richly treated than the others, to be in harmony with the clearstory. The timbers are carried on carved angels with outspread wings. The large old windows of the chancel are filled with new tracery; those of the clearstory are repaired only, and new parapets have been erected and such portions only of the walls rebuilt as were necessary. The whole church is lined inside with red stone, as is the outside, the inside facing of the nave being the old, replaced stone for stone. Much of the facing of the north aisle has simply been cleaned and repaired. During the work many old tiles were found *in sitû*. The new broad central pattern tiles and the Agnus Dei tiles of the altar daïs are reproduced by Messrs. Minton from the ancient ones, a few of which are relaid behind the altar. The low screen wall has alabaster tracery panels set in Runcorn stone. The pulpit will be of similar material. The chapels are, as formerly, parted off from the chancel by traceried oak screens. The steps of the altar are of polished Hopton Wood stone, and the re-table wall has shelves of marble and alabaster. Some few of the seats in oak have been placed especially in the Buntingsdale Chapel, restored at the expense of Mr. Tayleur. Many windows are filled with stained glass by Messrs. Burlison & Grylls, the subjects following one general scheme for the whole church. A new vestry is to be added at the north-east end, and entered from the chancel. The tower is still in need of repair. There was originally intended to be a stone spire rising from the inside of the parapets. The particulars and details of this tower are exceedingly good, and its three arches in the

church have a very fine effect. The architects under whose care the work has been done are Mr. R. Herbert Carpenter and Mr. B. Ingelow, of Carlton-chambers, London. Mr. Bowdler, of Shrewsbury, contracted for the nave and aisles as well as the Buntingsdale and Broughton chapels. Mr. Yates, of Shiffnal, was the contractor for the chancel, Mr. Fletcher being the clerk of the works. A heating apparatus on the hot-water system has been supplied, and the church has been efficiently lighted with gas by Mr. Gower, of Market Drayton. The work was commenced on the 1st of August, 1881, and has been completed at a cost of about 5,600*l.*, exclusive of the chancel and Buntingsdale chapel.

MEETINGS.

SATURDAY, MARCH 1.

Association of Public Sanitary Inspectors.—Discussion on papers read at previous meetings, and (time permitting) paper to be read by Mr. Thos. Rees, of Guildford, on "The Public Health Act, 1875." 6 p.m.

Royal Institution.—Captain Abney, R.E., F.R.S., on "Photographic Action considered as the Work of Radiation." 3 p.m.

MONDAY, MARCH 3.

Royal Institute of British Architects.—Special General Meeting of Members only. 8 p.m.

Royal Academy.—Mr. E. J. Poynter, R.A., on "Sculpture." 8 p.m.

London Institution.—Mr. Arthur Severn on "Beach Studies." 5 p.m.

Society of Arts.—Mr. R. W. Edis, F.S.A., on "The Fittings, Planned Furniture, and Constructive Decoration of Town Houses." (Cantor Lecture.) 8 p.m.

Society of Engineers.—Mr. A. C. Engert on "The Defects of Steam Boilers and their Remedy." 7.30 p.m.

TUESDAY, MARCH 4.

Institution of Civil Engineers.—Discussion on Mr. S. W. Barnaby's Paper on "Hydraulic Propulsion." 8 p.m.

WEDNESDAY, MARCH 5.

Society of Arts.—Mr. W. H. Preece, F.R.S., on "The Progress of Electric Lighting." 8 p.m.

British Archæological Association.—Mr. H. Syer-Cuming, F.S.A. Scot., on "Finger-Nail Lore." 8 p.m.

THURSDAY, MARCH 6.

Society of Antiquaries.— Ballot for the election of Fellows. 8.30 p.m.

Society of Engineers.—Mr. J. W. Wilson on "The Work of the Fitting, Erecting, and Smiths' Shops." 8 p.m.

Royal Institution.—Professor Tyndall on "The Older Electricity: its Phenomena and Investigators." 3 p.m.

London Institution. — Professor Schuster, F.R.S., on "The Aurora Borealis." 7 p.m.

SATURDAY, MARCH 8.

Architectural Association. — Visit to the Brompton Oratory. 3 p.m.

Miscellanea.

Royal Victoria Coffee Hall.—The Gilchrist Trustees have enabled the Committee of the Victoria Hall to arrange for the delivery of a second course of penny science lectures on Tuesday evenings, beginning March 4th. The following is the list of subjects:—March 4, Professor H. G. Seeley, F.R.S., on "Ancient English Dragons"; March 11, Wm. Lant Carpenter, Esq., B.A., B.Sc., F.C.S., on "Air, and why we breathe," with experiments; March 18, P. H. Carpenter, Esq., M.A., D.S., on "Fossils, and what they teach us"; March 25, Edward Clodd, Esq., on "The Working Man 100,000 years ago"; April 1, E. B. Knobel, Esq., F.R.A.S., F.G.S., Hon. Sec. R.A.S., on "The Planets"; April 8, J. W. Groves, Esq., on "The Dangers and Safeguards of Beauty in Animals."

Prevention and Extinction of Fires in Theatres.—The Council of the Society of Arts, having considered the models, plans, drawings, &c., submitted in competition for the Fothergill prize of a gold medal, or 20*l.*, offered for the best invention having for its object the prevention and extinction of fires in theatres, have determined that the papers by Captain Shean and Mr. Ernest A. E. Woodrow, A.R.I.B.A., on arrangements for the prevention and extinction of fires in theatres, are the best of all the contributions sent in; but they are of opinion that neither of these papers comes within the terms of the offer of the prize. They have, therefore, decided not to award the prize.—*City Press.*

Seascale. — With reference to this place, a seaside resort situate on the Furness line in Cumberland, we hear that an additional impetus is about to be given to its development. During the few years it has been frequented as a watering-place, satisfactory progress has been made in providing the necessary accommodation in the way of buildings. A new and large permanent church is about to be erected in place of the iron edifice which came to a tragic end during the prevalence of the late storms.

British Archæological Association.—The sixth meeting of the session was held on the 20th ult., the Rev. Dr. Sparrow Simpson, F.S.A., in the chair. A series of portable shrines, with figures of saints of the Russo-Greek Church, was exhibited by Mr. Loftus Brock, F.S.A. An impression of a little-known counter-seal of Philip, Duke of Burgundy, 1419-1467, was described by Mr. A. B. Wyon. Some recent finds on the site of the new buildings in Coventry-street were shown by Mr. G. Lambert, F.S.A. Mr. Romilly Allen tendered a description of the slab, covered with Saxon interlaced ornament, found not long since during the restoration of Bexhill Church. The Rev. S. M. Mayhew exhibited a collection of antiquities found recently in various parts of London. A paper was read by the chairman on a Magic Roll in the British Museum. The roll is of vellum, 11 ft. in length, and but 1½ in. in width, of the early part of the seventeenth. One side is covered with neatly-drawn sigils, the other with a wild jumble of meaningless words and names in Latin, invocations of spirits, signs of the Cross, charms, prayers, and passages from the Bible. In the discussion which ensued, Mr. T. Morgan, F.S.A., referred to the prevalence of old superstitions in various parts of the British Isles; and Mr. de Gray Birch, F.S.A., indicated the presence of a well-known but unexplained arrangement of five letters in five lines as occurring not only on the magic roll, but on the end of a pew in Great Gidding Church, 1614, and also on a Roman tile found at Cirencester. The proceedings were brought to a close by a paper on "The History of Devizes Castle," by Mr. W. H. Butcher, who traced the notices of the famous building from early times to its demolition during the Civil Wars.

General Engineering Construction.—The second of a course of lectures on General Engineering Construction, by Mr. J. W. Wilson, Assoc.-M.I.C.E., vice-principal of the Crystal Palace School of Practical Engineering, was delivered on the evening of February 21, in the reading-room of the Society of Engineers, Victoria-street, Westminster, Mr. A. T. Walmisley, member of council, in the chair. The lecturer commenced by impressing upon his audience the value of a good practical acquaintance with all the details of professional work, and then proceeded to consider various points of interest bearing upon the nature and proper employment of the different implements and materials in use in the engineering drawing office. After dealing with the preparation of working and finished drawings, tracings, &c., he proceeded to emphasize the value of freehand sketching, and the correct figuring of dimensions. He then showed the advantages of calculation as a necessary aid to engineering design; and, after explaining the getting out of quantities in reference to the preparation of estimates of various kinds, he considered the general nature of specifications, explaining in detail some of their more important clauses, touching upon the plotting of parliamentary and other surveys. He concluded by showing the use of reliable drawings and specifications to the superintendent of work in construction.

Blaydon-on-Tyne.—Acting under the instructions of Mr. Frank Parmeter, the newly-appointed Receiver of a portion of the Towneley Estates, Mr. T. C. Nicholson, architect, of Newcastle-on-Tyne, has just prepared a plan for extensive building operations at Blaydon-on-Tyne. The plan indicates twelve acres of land laid out for freehold building sites. The front streets marked out on the plan will be 36 ft. in width, a width of 18 ft. being allowed for the back streets. All the houses will be self-contained, and will have large yards behind. We are informed that for some years past there has been a great and increasing demand for houses in the Blaydon district; but, with the exception of the ground laid out by Sir Henry Clavering, there has been no freehold land in the market; and this circumstance led to the decision to mark out this portion of the Towneley Estate for building sites. Should the twelve acres already planned not be sufficient to meet the demand for house property,—and with the rapidly increasing population of the district the demand is likely to continue,—other portions of the estate will also be offered to builders. The streets will be, as it were, enclosed on two sides, being bounded on the east by Shibdon Dene, a wooded ravine; and on the west by Blaydon Bank, a deep cutting.

TENDERS.

For sea defence works at Hove, Sussex. Sir John Coode and Mr. Ellice-Clark, engineers:—

		Time
Budden & Co., Gloucester	£38,639 12 7	18 months.
W. Webster, London	33,723 0 0	22 ,,
J. Harrison, Brighton	30,966 0 0	20 ,,
J. T. Chappell, Pimlico	29,861 0 0	24 ,,
C. Dickinson, London	27,315 0 0	15 ,,
W. J. Doherty, Dublin	27,261 0 0	15 ,,
McCrea & McFarlane, Belfast	26,659 12 7	18 ,,
G. Lawson, Glasgow	26,272 4 10	20 ,,
G. Cheesman & Co., Brighton	25,904 0 0	24 ,,
H. Lee & Sons, Westminster	25,720 0 0	24 ,,
J. G. Marshall, Brighton	25,671 4 4	17 ,,
J. Longley, Crawley	25,189 0 0	24 ,,
W. Hill & Co., Gosport *	23,946 0 0	12 ,,
Taylor & Sharp, London	23,000 0 0	12 ,,
Hill Bros., Wycombe	20,948 11 4	10 ,,

*Accepted.

For connecting sewers and flushing tanks at Hove. Mr. Ellice-Clark, engineer:—

Anscombe, Brighton	£4,872 0 0
Bottrill, London	4,601 0 0
Dearle, Hastings	4,401 0 0
Marshall, Brighton	4,330 0 0
Cowdery	4,056 0 0
Hill & Co., Gosport	4,116 0 0
Peters, Horsham	4,045 0 0
Cheesman & Co., Brighton	3,840 0 0
J. H. Etheridge, Croydon	3,804 0 0
Reynolds, Jun., Hove	3,497 0 0
Longley, Crawley	3,272 0 0
Parsons, Hove (accepted)	3,107 0 0

For alterations, repairs, and decorations to the Vestry Offices and Lammas Hall, Battersea, for the churchwardens and overseers. Mr. H. G. Gribble, architect. Quantities supplied:—

Hudson, St. John's Hill	£335 0 0
E. Maplesden, Battersea Rise	238 0 0
Turtle & Appleton, St. John's Hill	235 0 0
T. Walker, Battersea (accepted)	190 0 0

For the erection of a warehouse in Bath-place, Haggerston, for Messrs. Lines Bros. Messrs. J. & J. S. Edmeston, architects, 42, Old Broad-street, London:—

Adamson & Sons	£2,320 0 0
Cadman & Bundy	2,250 0 0
Sabey & Son	2,249 0 0
Marshall	2,222 0 0
Frost	2,220 0 0
Bolding	2,187 0 0
Nye	2,156 0 0
Smith & Son	2,147 0 0
Staines & Son	2,144 0 0
Kirk & Randall	2,120 0 0
Brown	2,090 0 0
Gould & Brand	2,087 0 0
Holland	2,083 0 0
Shephard	2,037 0 0
Boyce	2,023 0 0
Steel Bros.	1,999 0 0
Jarvis & Son	1,995 0 0
Ward & Lamble	1,981 0 0
Jackson & Todd	1,938 0 0
Higgs	1,935 0 0
J. Harper (accepted)	1,930 0 0

For the erection of Unitarian Chapel, Newark. Mr. Geo. Sheppard, architect, Newark:—

T. Cosham	£1,180 0 0
T. Henderson	1,145 0 0
Mackenzie & Son	1,141 0 0
C. Thrale & Son	1,080 0 0
C. Lane	1,025 0 0
Smith & Lunn	997 0 0
Brown & Son	990 0 0
M. Duke	985 0 0

[All of Newark.]

For alterations, repairs, and rebuilding party wall at No. 1, St. Stephen-street, Bristol, for Mr. Frederick W. Sinnock. Messrs. J. W. Trew & Sons, architects, Broad-street:—

	Repairs.	New Party Wall.
Highman	£954	£151
E. Gay	700	150
W. Cowlin	675	190
H. Johnson	670	113
T. & E. Hatherley	647	147
J. Bastow	630	115
J. James (accepted)	489	—

[All of Bristol.]

For new Wesleyan chapel and schools, Reigate. Mr. F. Boreham, architect. Quantities by Mr. C. W. Brooks:—

Sawyer	£3,553 0 0
Roberts Bros.	3,497 0 0
Taylor Bros.	3,488 0 0
Dove Bros.	3,475 0 0
Buckland	3,452 0 0
Holt	3,250 0 0
Redford & Potter	3,100 0 0
Woodward	3,050 0 0
Apted Bros.	2,949 0 0
Holloway	2,860 0 0
Nightingale Bros. (accepted)	2,808 0 0

For the erection and completion of an engine-house and boiler-house at the waterworks at Boultham, Lincoln Mr. Teague, engineer. Quantities supplied:—

Cowen & Lansdowne	£2,448 0 0
J. B. Harrison	2,348 0 0
S. & R. Horton	2,304 0 0
H. S. & W. Close	2,294 0 0
J. M. Harrison	2,246 0 0
Crosby & Sons	2,219 0 0
Wright (accepted)	2,065 0 0

[Engineer's estimate about 2,500*l.*]

For pulling down and rebuilding Nos. 143 and 145 Green-street, Bethnal Green, for Mr. Lefever. Mr. W Batten, architect. Quantities supplied:—

Russel	£986 0 0
Thomerson & Son	865 10 0
Beale	860 10 0

For proposed assembly room and other buildings at Malvern, in the county of Worcester, for the Directors of the Malvern Pleasure Garden Company. Mr. John Johnson, architect, Queen Victoria-street. Quantities supplied by Mr. William H. Pipe:—

Main Buildings.

Alfred King, Gloucester	£12,487	0	0
Brown & Co., London	10,800	0	0
Wood & Sons, Malvern	10,797	0	0
Allen & Son, Kilburn	10,590	0	0
Kingerlee, Banbury	9,995	0	0
Bradney, Wolverhampton	9,994	0	0
Foster & Dicksee, Rugby	9,660	0	0
Everal & Co., Graham House, Malvern	9,599	0	0

Ironwork.

Phœnix Iron Foundry	£1,297	0	0
Sparkes & Co., Great Malvern	1,217	0	0
Handyside, Derby	1,027	0	0
Tildesley, Stafford	941	0	0
Dawnay, London	920	0	0

For alterations and additions to St. Catherine's Lodge, Hove. Mr. Wm. Flockhart (Messrs. Wallace & Flockhart), 27A, Old Bond-street, architect. Quantities by Mr. Frederick Thomson, London:—

Goddard & Sons, Farnham	£4,437	0	0
C. E. Kempe, Brighton	4,197	0	0
J. Anscombe, Brighton	3,836	0	0
Howard & Co., Brighton	3,674	0	0
Parsons & Sons, Hove	3,645	11	10
Dowsing & Sons, London	3,370	0	0
Light, Portsmouth	3,198	0	0
Peters, Horsham	3,100	0	0
E Toms, London	3,043	0	0
W. Taylor, Brighton	3,026	0	0
Webber & Sons, Hove	2,987	0	0
Reynolds, Hove	2,937	0	0
P. S. Robertson, London	2,813	0	0

For alterations, &c., at Nos. 175 and 176, New Bond-street. Messrs. Allen & Mackland, architects. No quantities:—

Yardley	£1,099	10	0
Drew & Cadman	1,073	0	0
White & Winter	1,052	0	0

For rebuilding the Crown public-house, Whitecross-street, E.C., for Mr. G. Warman. Mr. W. T. Farthing, architect. Quantities supplied:—

Pickersgill	£1,283	0	0
Royall	1,176	0	0
Paling & Co.	1,167	0	0
Mills	1,147	0	0
Spencer & Co.	1,100	0	0
Josolyne	1,070	0	0
Jackson & Todd	1,029	0	0
Burch & Co.	891	0	0

For alterations and additions to 36, 38, 40, and 42, Chrisp-street, and No. 4, Tetley-street, Poplar, for Mr. Oxenham. Mr. J. Douglass Mathews, architect. Quantities supplied:—

Nightingale	£2,893	0	0
Mills	2,867	0	0
Smith	2,824	0	0
Coleman	2,800	0	0
Grover	2,787	0	0
Atherton & Latta	2,780	0	0
Hearle & Son	2 492	0	0
Killby & Co.	2,436	0	0

For additions to The Old House, Wimbledon. Mr. Edgar Farman, architect, 5, Great James-street, W.C.:—

Henry Harmer	£595	0	0

[No competition.]

For alterations, &c., 13 and 14, Lee-place, Lee. Mr. Frederick Lea, surveyor:—

H. Hughes	£202	16	0
J. B. Gerrans (accepted)	189	19	0

For the erection of a cottage at the back of No. 3, Paragon, Ramsgate, for Mr. W. H. Dunn. Mr. E. L. Elgar, architect:—

J. Newby	£567	9	0
Newby Bros.	489	0	0
W. H. Port	480	0	0
B. J. Cowell	475	0	0
H. Bowman (accepted)	424	0	0
H. Miller	405	0	0

For shops, stabling, &c., at Surbiton. Mr. R. T. Beaumont, architect:—

R. Scase & Son, Surbiton	£2,196	0	0
G. F. Havell, Kingston and Lee	1,883	0	0
Babbs Bros., Surbiton (accepted)	1,843	0	0

For villa residence, St. Peter's Park, St. Alban's. Mr. T. Foster Woodman, Surveyor, St. Alban's and Hemel Hempstead:—

Messrs. J. & W. Savage	£550	0	0

For stabling and class-room over, in the Lower Cross-road, Hemel Hempstead, for Mr. H. Mutton. S. Foster Woodman, surveyor:—

Horn	£160	0	0

For new shop front and roof, and general reparations, to No. 25, Chequer-street, St. Alban's, for Mr. R. C. Martyn. Mr. S. Foster Woodman, surveyor:—

Messrs. J. & W. Savage*	£245	0	0

* Tender for amended design.

For the erection of a pair of villas, Parrock-road, Gravesend, for Messrs. T. G. & G. Sandford. Mr. Edmund J. Bennett, architect, Gravesend:—

W. H. Archer (accepted)	£1,054	0	0

Baptist Chapel, &c., Werter-road, Putney.—Mr. J. D. Hobson, of Duke-street, Adelphi, writes to say that his tender for these works ought not to have been included in the list sent to us for insertion last week (see p. 288), as he withdrew it by telegram, having discovered a clerical error of £900 after the tender was sent in; so that instead of £4,462, its amount should have been £5,362.

New Schools for Edmonton Union.—With reference to the list of tenders for this job, printed by us last week (p. 287), Messrs Foster & Dicksee write:—"We are informed by Mr. Knightley that Mr. Wall's tender was accepted because it was decided by the Guardians to carry out the work in accordance with the alternative estimate, for which our amount was a few pounds above his. We mention this fact, as otherwise it might almost appear from the list that our tender had been passed over in favour of Mr. Wall's."

Special Notice.—Lists of tenders frequently reach us too late for insertion. They should be delivered at our office, 40, Catherine-street, Strand, W.C., not later than four p.m. on Thursdays.

TO CORRESPONDENTS.

W. R. D. (we cannot inform you, and we cannot print inquiries on subjects of that kind).—S. H.—B. B. and B.—P. H. (no space at present, we fear. Cannot print half the letters we would wish to).—Nemo (ditto. According to your account, the architect's charge was based on bad and rather disingenuous reasoning, but you are quite mistaken in thinking your friend victimised. A small building costs far more trouble in proportion to the outlay than a large one, and it is quite common and quite fair to charge at a higher rate for it, but of course an architect should tell his client so beforehand).—J. H. (cannot print letters unless name and address accompany them).—W. S.—W. P. B. (next week).

Correspondents should address the Editor, and *not* the Publisher, except in cases of busines.

All statements of facts, lists of tenders, &c. must be accompanied by the name and address of the sender, not necessarily for publication.

We are compelled to decline pointing out books and giving addresses.

NOTE.—The responsibility of signed articles, and papers read at public meetings, rests, of course, with the authors.

We cannot undertake to return rejected communications.

Letters or communications (beyond mere news-items) which have been duplicated for other journals, are NOT DESIRED.

PUBLISHER'S NOTICES.

THE INDEX and TITLE-PAGE for Volume XLV. (July to December, 1883) were given as a Supplement with the number of January 12, and A COLOURED TITLE-PAGE was issued the following week, in substitution for that published previously.

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